



FRIDAY, OCTOBER 12.

Contributions.

Frog Formulæ.

PHILADELPHIA, Oct. 4, 1883.

TO THE EDITOR OF THE RAILROAD GAZETTE:

In the *Railroad Gazette* of Sept. 14, Mr. Mordecai complains that in trying to improve Mr. Myers' frog formula, I have narrowed its scope; and he shows that my rule, as it stands, will not apply to turnouts from straight lines if we use d , as Mr. Myers does, to indicate diameter of curve of turnout.

Mr. Mordecai probably omitted to notice that my " d " (as explained in my communication) represents what, in Mr. Myers' symbols, would read $dn \pm g$. Substituting this in my rule, I think it will be found to work not only practically, but exactly with turnouts from straight lines as well as with those from curves.

But for turnouts from straight lines we have the far simpler (and exact) rule of the "Pocket Book."

$x = \text{Twice the gauge} \times \text{the frog number.}$

Since, therefore, the only object was to obtain a simple and exact rule for turnouts from curves, I ventured, in meddling with Mr. Myers' rule, to get the symbols down to their lowest terms, in which form I think they will be found to cover such cases.

JOHN C. TRAUTWINE, JR.

Traffic Losses on Southern Railroads.

TO THE EDITOR OF THE RAILROAD GAZETTE:

The small cotton yield this year means unusually small dividends for our Southern railroads, unless changes are made in their traffic arrangements, and unusual economies practiced.

A consideration of some of the losses incurred by our Southern roads, with the changes and economies required to prevent them, is important just now to all persons interested in the railroads of this section.

Permit me, therefore, through the columns of your valuable paper, to make mention of some of these losses, and offer a few suggestions looking to their removal.

In railroading, the traffic department should be esteemed the important one. Its work is, primarily, to secure business for the road. To secure a permanent business requires that this department shall look to the interests of customers in the satisfactory carriage and delivery of freight, and in the comfort and conveniences afforded to passengers.

Unless the traffic department is efficiently managed, the other departments are helpless. In the quantity of business secured and the tariff charged lies the possibility of the road to earn money.

The tariff charged largely regulates the quantity of traffic, especially in undeveloped countries, like our Gulf states.

If the tariff is so high as to make the cost of raw material, on its arrival in the world's markets, above its established value, then, of course, the raw material is not transported.

In many cases the tariff on all Southern roads is thus high, and shuts out a large quantity of freight of this character. If the present tariff is as low as this class of freight can be carried for and earn any money for the roads, then the railroads are, of necessity, helpless in the matter. But this is not the case.

To illustrate, I will instance an example in one of our Gulf roads, which passes through a large pine forest. Its charges per car, for hauling lumber, are as follows: \$15 for distances up to 25 miles; \$25 for distances over 25 up to 50 miles, and \$35 for distances over 50 up to 100 miles.

Just prior to the opening of this road, northern capitalists, attracted by this magnificent forest, and assured that excessive freights would not be charged, built large mills for the purpose of sawing lumber for St. Louis, Chicago and Cincinnati.

In consequence of the above high rates these saw-mills are now idle and the railroad company's mill tracks unused.

One of the most prominent of these lumbermen assured me that if the road referred to would reduce its tariff \$1.50 per thousand feet B. M., that he could successfully compete in the Chicago market. As it is, his mill, capable of turning out 30,000 ft. per day, lies idle.

A carload of lumber is 6,000 ft. To haul this car 100 miles cannot cost any railroad to exceed \$12, yet the charge of \$35, as per above tariff, reduced by the \$9 asked for by the lumberman, making \$26, and, therefore, by our estimate, netting \$14 profit to the railroad company in question, is refused, and the lumber remains unhailed.

By its high tariff this road refuses a net income of \$70 per day from this one mill alone.

Notwithstanding the large traffic thus refused, the road earned money last year, chiefly because of its cotton business.

The above example is only one of many which have come to the writer's knowledge illustrating the loss to our railroads from too high a tariff.

Another road charges for freight hauled 40 miles \$40 per car of third-class freight, by the Mississippi Valley Classification, which is the standard here.

The average charge in the East for first-class freight is not over 2 cents per ton per mile. At double this rate, or at 4 cents per ton per mile, this road would receive \$16 for

its 40-mile haul, instead of \$40, and would then make a net profit of at least \$10. At the more moderate tariff of 4 cents this road, in a short time, would enjoy ten times the traffic and a net income three to four times the present one. Yet in spite of this self-inflicted injury, this road, through its cotton hauls, last year, paid its interest on its bonds and had a small surplus.

But this year there is but a small quantity of cotton to haul, and unless this road and others in the same predicament invite traffic by reduced rates they cannot expect to meet their financial obligations.

Southern railroads as a class are slow to recognize the fact that the supreme reign of cotton is at an end and that they cannot longer depend upon the receipts from this line of freight at the usual local tariff of \$50 per car per 100 miles to provide them sufficient funds for annual expenses and annual dividends.

The second traffic question to which I would invite your attention is one not often dealt with in the South, though it has received consideration in the North.

Nearly all roads haul more freight in one direction than in the other. Consequently cars are returned empty over the road after more loads. Rather than haul these cars back empty, at an expense nearly as large as if the cars were loaded, would it not be well to invite some special kinds of freight in the direction of the light loads by an exceedingly low tariff on them?

If the country tributary to the unloading end of the road can supply any such traffic, when properly solicited, I believe it will pay well to secure it even at a rate below the average cost of transportation.

The southern roads are wide awake to the advantages of the pool system. Their unity in adopting and maintaining a uniform classification and tariff can but result in good for both the public and themselves, providing their tariff is made sufficiently low to enable all kinds of traffic to reach their markets at a cost less than the selling price. If the law of supply and demand is properly regarded, our railroads need have no fear of permanent injury from "Georgia Commissions" and kindred meddlesomeness.

The last question, to which I would especially call attention, is the prevalent practice, among conductors, known as "knocking down."

That there are conductors of unimpeachable character and honesty, I fully believe; but that others steal large sums of money from their companies is an undeniable fact. How can the heavy loss, resulting from the pilferings of careless and dishonest servants, be saved? I answer, by furnishing every passenger a ticket, and forbidding conductors to receive cash for fare under penalty of immediate dismissal.

But to devise a practical way of supplying passengers with tickets who get on at irregular or flag stations seems to have been a task not yet accomplished. I think the plan I propose will provide a satisfactory means for accomplishing this, and will effectually break up the knocking down practice. The European method is out of the question on our Southern and Western roads, and the ticket collector system, tried by some prominent Eastern lines, is far too expensive.

I propose to have a ticket agent accompany each train carrying passengers. He will keep a full line of local tickets with which he has been charged, and is held accountable for them or their cash value. He shall be required to furnish a ticket to each passenger getting on the train without one. The rate which he shall charge shall be one cent per mile more than the regular tariff at station agencies.

Notices, in bold print, shall be posted in the cars, at all stations, and especially at all stopping places where there are no tickets on sale. These notices should inform the public that no passengers should be permitted to ride on the trains of this road except upon a ticket or pass; and that no conductor is permitted to accept a cash fare; that passengers can obtain tickets on the train upon application to the "Train Ticket Agent," but will in such case be required to pay one cent per mile more than if purchased from a regular ticket office of the company.

I would sharpen the wits of the "Train Ticket Agent" by paying him by a commission, instead of by a salary. I would fix this commission at the extra one cent per mile charged by him.

The daily cash returns from each train of this road amount to an average of \$50 to \$75. One-fourth of this, or \$12 to \$19, would be the train agent's daily wages, a sum sufficiently handsome to entice the services of men of superior ability. Yet, if any manager thinks for a moment that the extra one cent, in any measure, pays for the stealing under the present arrangement, he is decidedly mistaken; in fact, he can never have been there himself. The successful knocking-down conductor has to pay large fees and cannot net the entire profit himself.

The train ticket agent is offered a very lucrative position, dependent largely upon his attention to business, and he would hardly fail to seize upon every opportunity offered to sell tickets for the greatest distance. Under this plan the company receives its regular fare under all circumstances, and that portion of the public accommodated at irregular stations would pay the expense of the train ticket agent.

Conductors should be required to collect and make ticket returns as now. The advantage to the Auditor of having a ticket returned for every fare will be evident to all railroad officials.

Freight trains should not be allowed to carry passengers. This is a good rule under all circumstances.

Having dwelt somewhat more fully than intended on the losses resulting from excessive tariffs, empty car mileage,

and knocking down, I must omit to speak of the very interesting subjects of interchanges of business with other roads, mileage and demurrage charges, and improved methods of way-billing and agency accounts.

If this inquiry shall awaken any attention to the causes of the present depressed outlook on some of our Southern lines I shall be happy indeed.

A MISSISSIPPIAN.

Strength of Wrought-Iron Struts.

At the regular monthly meeting of the American Society of Civil Engineers, held in New York, Oct. 3, a paper by Mr. James Christie, C. E., on "Experiments on the Strength of Wrought-Iron Struts" was then read by the secretary in the absence of the author. These experiments were made at the Pencoyd Iron Works for the purpose of determining the comparative resistance to compression of long and short struts of rolled angles, tees, beams and channel sections. The specimens were tested by four different methods: first, with flat ends between parallel plates to which the specimen was in no way connected; second, with fixed ends or ends rigidly clamped to parallel plates, the plates substantially forming flanges to the specimen; third, with hinged ends, or both ends fitted to hemispherical balls and sockets or cylindrical pins; fourth, with round ends or both ends fitted to balls resting on flat plates. The specimens varied in length from 8 in. up to 18 ft. and were selected to obtain a reform character of material. The paper gave tabulated results of 299 experiments, and these results are illustrated by a number of diagrams. There were also results given of a number of tests of welded tubes. The general conclusions drawn from these experiments were as follows (L being length divided by least radius of gyration):

When struts are short, say $\frac{L}{r}$ below 20, there will be no practical difference in the strength of the four classes so long as reasonable care is taken to keep the centre of pressure in the centre of the strut. Hinged-ended struts vary all the way from round-ended up to flat-ended in strength. If the hinges are pins of substantial diameter, well fitted, and exactly coincident with the axis of greatest resistance of the strut, the strength of the strut will be fully equal to that of a flat-ended, but considering the impracticability of maintaining this rigid accuracy, the average hinged struts as compared with flat-ended will fall in strength as the length is increased until $\frac{L}{r}$ is about 250, when they will average one-third less resistance than flat-ended. From this point they will gain comparatively until $\frac{L}{r}$ becomes about 500, when both classes will be practically equal. Fixed-ended struts gain in comparative resistance, from the shortest lengths upward, until $\frac{L}{r}$ becomes about 500, when they are twice as strong as either the flat or hinged-ended.

Round-ended struts continually lose in comparative resistance as the length is increased. When $\frac{L}{r}$ is above 340 they will be half as strong as hinged-ended; and when $\frac{L}{r}$ is about 160, they will have only half the strength of flat-ended.

The iron from which the tests were made exhibited the following resistances to direct compression, being the general results of several tests of small section, 15 in. long, and secured in such a manner as to prevent lateral flexure.

With 30,000 lbs. pressure per square inch incipient permanent reduction of length was observed.

With 35,000 lbs. pressure per square inch failure of elasticity occurred, and marked permanent reduction of length.

With 50,000 lbs. per square inch a permanent reduction of length of 3 per cent. occurred.

With 75,000 lbs. a permanent reduction of 10 per cent., and with 100,000 lbs. pressure per square inch a permanent reduction of 25 per cent. of the length.

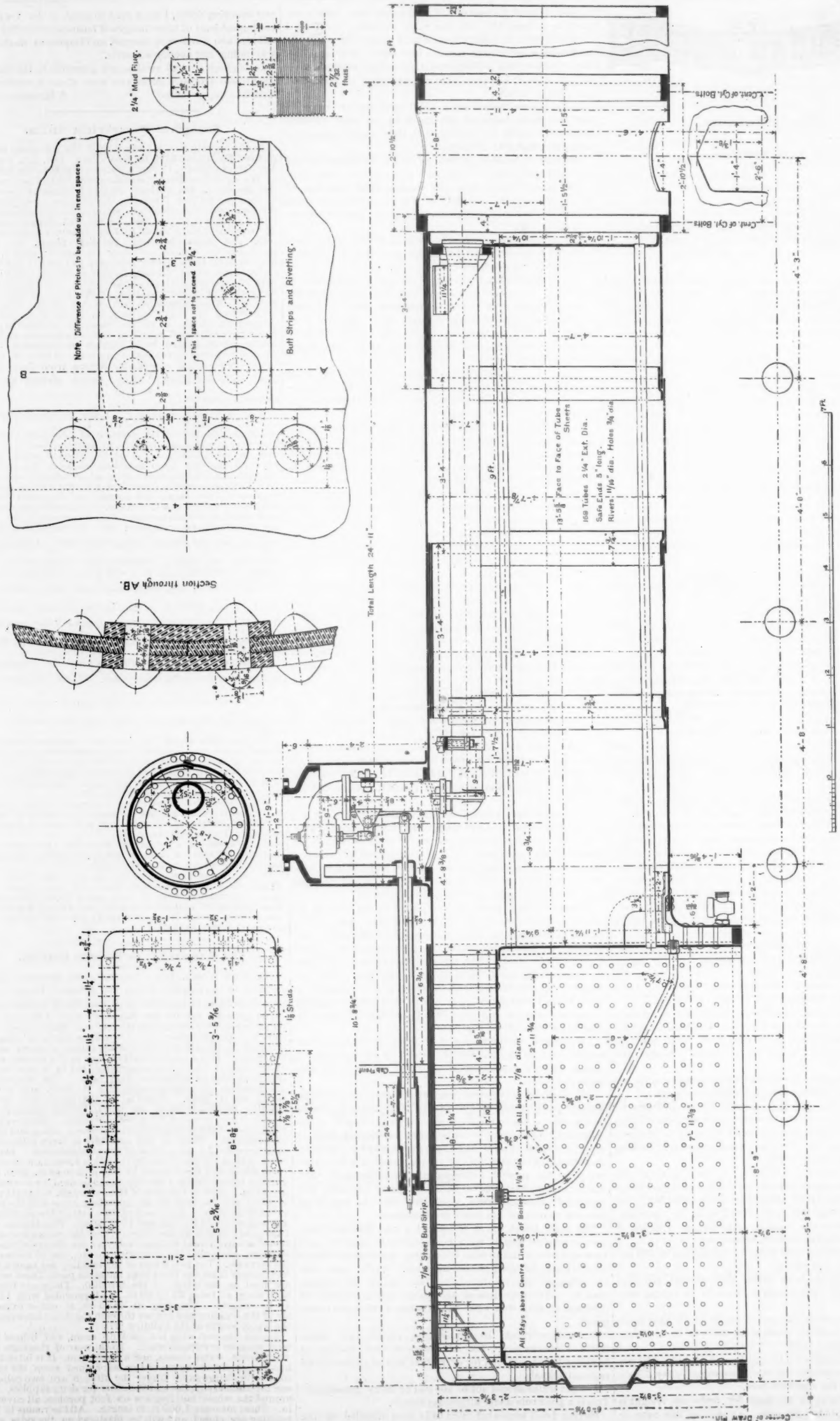
The paper was discussed by Messrs. Theodore Cooper and Charles E. Emery, who both expressed the opinion that these experiments were of very great value, being made with material of uniform character, and in such a way that comparisons could be made directly between the different methods adopted in testing.

The Missouri Pacific Railroad Hospital.

The Fort Worth, Tex., *Gazette* gives the following description of the hospital which the Missouri Pacific Company is building in that city for the benefit of its employees:

The grounds are on the Santa Fe road at the end of a pleasant southern drive from the city out Main street continued. The building faces toward the south, it being the intention to give the patients the advantage of every southern breeze. It is a frame building, now in the natural color of the pine of which it is constructed, but in a few days it will be painted an attractive light blue. The dimensions are imposing, the building being 278 ft. long, and at the centre 95 ft. deep. Entering at the main door of the building, the first room on the hall to the left is a large reception room, in which to receive friends. This will be handsomely furnished and provided with a piano and other conveniences. Back of this and fully as large is the room to be occupied by the matron of the establishment. On the other side of the hall from the reception room is a spacious room which will be occupied by the surgeon as an office, and directly behind this is a smaller one to be used as a consulting room. Just to the rear of this is a room, the front part of which will be used as an operating room and the back as the drug store. Just back of this part of the building is a dining room 33 ft. long and 19 ft. wide. The kitchen and pantry adjoin this at the rear. Over the rooms first mentioned are five rooms to be occupied by the officers of the institution, while over the dining room, etc., are 10 rooms for the servants. The two wings of the building set back a few feet further from the front than the main part. These wings are used as the wards of the hospital. There are four in each wing, all being 22 by 29 ft., and provided with 11 by 4 ft. closets. Standing at the door at either extremity of the building one can see through the doors intervening the whole length of the building, 278 ft.

Behind the east wing is a smoking room, and behind the west wing an erysipelas ward. To the rear of these are the wash rooms, water closets, and a dead room. If it is intended, however, to avoid the use of this last named room, the physicians in charge say. Under the kitchen are two cellars, one for kitchen supplies and the other for drug supplies. All around the whole building are six foot porches, all covered in. These measure 1,600 ft. in length. All the rooms in the building are closed and will be plastered on the sides and ceiling overhead. The floors are to be well oiled, those in the



halls and porches to be painted a neat mud color. The windows in the wards are arranged with a view to the comfort of patients, each ward having four windows, adjusted so that each of the eight patients may have his head to a window. The surgical wards are in the east wing and the sick wards in the other, but the arrangements are the same. The whole building will be heated with coal fires, steam being deemed objectionable. Each ward will have a self-heating, base-burning and base-heating stove.

The beds will be of iron frame, the regular hospital beds, the frames being of gas pipe. Upon these wire mattresses and cotton-top shuck mattresses will be used, with white hair pillows.

Back of each wing of this building is a 16 ft. cistern, walled up with cemented brick. An artesian well will be bored soon.

The grounds are to be graded and covered with ornamental shrubbery, shade trees, flower beds, etc., and wide walks laid off.

A switch from the Santa Fe road has already been laid, and a station will be built for the comfortable accommodation of patients who, on account of the roughness of the weather, or other cause, cannot be transferred to the hospital at the time of their arrival. It is intended after a while to construct the switch directly up to the hospital building. In order to give a front approach for vehicles, a street will be laid off as far as the railroad in front of the hospital grounds. Among other conveniences will be a pasture where cows will be kept in order to get a supply of pure sweet milk for the patients.

This hospital is no charity, though its establishment is commendable. Every employee of the road has 50 cents per month deducted from his salary to pay the expenses of keeping up such care, and all are entitled to attention when sick or hurt.

The contract for the building was given the firm of Cowen & Knowlton, and the character of the work is such as to reflect credit upon this firm. It is thought that the building will be ready for occupation inside of thirty days.

Improvements in Locomotive Boiler Construction.

[Report presented to the Master Mechanics' Association at its Sixteenth Annual Convention, in Chicago, by the Committee on that subject, consisting of Messrs. Jacob Johann, C. R. Peddle and James Eckford.]

The announcement of the members to serve on the Committee of Research to investigate the subject of Improvements in Boiler Construction was not made until Oct. 10, 1882.

A meeting of the Committee was then called to meet at Indianapolis on Nov. 21, but through some misunderstanding the meeting miscarried and resulted in nothing being accomplished.

The succeeding month was an exceedingly busy and trying one, which, in conjunction with other circumstances, rendered it impossible to have a meeting during that month.

A meeting was then called for Jan. 17, at Cincinnati, at which the members of the Committee were present with but one exception, and Messrs. Wells and Setchel by invitation.

At this meeting it was decided, owing to the short time left in which to do the work, not to enter into any series of experiments or to prepare an elaborate discussion on the subject. It being deemed more advisable to procure as much data as possible in an informal way for this year's report, and reserve the thorough digestion of the subject for the succeeding year, if the Association so decided.

In pursuance of this policy the following circular letter was addressed to those members of the Association who were deemed to be the best situated to furnish the data required by our Committee:

"Having been appointed Chairman of the Committee of Research of the Master Mechanics' Association to investigate the subject of improvements in locomotive boilers, I should like very much to have your co-operation toward making our report as valuable as possible.

"At a meeting of the Committee held at Cincinnati it was decided not to issue any circular embodying direct questions, it being deemed more advisable to secure as much general information as possible for this year's report, and reserve the direct questions on subjects that may present themselves for next year's report.

"In furtherance of this object we should like very much to have your views on the subject in question in such shape as you may choose to present them, together with drawings and descriptions of any boilers that you may have in operation or contemplation that have or will possess any differences, however slight, from the types now in general use."

Very much to our disappointment only nine replies were received to over 30 circular letters that were sent out, but the answers and drawings that were received are valuable, and the Committee return their thanks to those who responded.

In order to secure data for making a comparison between the English and American practice similar circular-letters, modified to suit the circumstances, were sent to seven of the leading English master mechanics, and replies earnestly solicited.

As a result four replies and five tracings of boilers were received.

This result has almost led us to conclude that our English brethren take more interest in such matters than we do in America.

In presenting these replies and drawings to the Association it is not the intention of the Committee to enter into any and every discussion as to the merits of the different boilers, but will simply take each one separately and call attention to the peculiarities in points of difference from the ordinary type that each may possess; hoping thereby to provoke a discussion and secure an expression of opinion as to the merit of the different points that may be brought out.

In this connection we wish to say that the order in which they are taken up is simply natural convenience, and is not intended to give precedence to any one reply.

Plate I. is a boiler designed by the late Howard Fry, of the New York, West Shore & Buffalo, for the consolidation engines to be used on that road.

This boiler is of the straight-top type, is 55 in. in diameter at smallest ring and has 169 2½-in. flues, 13 ft. 6 in. long.

The fire-box is 7 ft. 11½ in. in length with arched crown-sheet stayed to boiler crown by long stays riveted over at both ends. It has a fire-brick arch* supported by water tubes which enter the flue and crown sheets.

All longitudinal seams are butt-jointed with welt strips inside and out, the external welt strip butting up against the circumferential seam, and the internal one lapping over and taking two of the circumferential seam rivets.

The front flue sheet and back head are thoroughly stayed by angle-plate stays.

Plate II. is another boiler designed by the late Howard Fry, of the New York, West Shore & Buffalo Railway, for the Mogul engines to be used on that road.

This boiler is also of the straight-top type, is 50 in. in di-

* The fire-brick arch is not shown in the engravings, only the tubes for supporting it.

ameter at smallest ring and has 169 2-in. flues, 9 ft. 11 in. long. The fire-box is 62 in. in length with sloping grate and fire-brick arch. This arch is supported by water tubes which enter the flue and fire-door sheets.

This arch extends entirely back to the fire-door sheet with a 12 by 24 in. opening in each back corner of the arch.

The general construction of the boiler is similar to that for the consolidation engine, and the same remarks are applicable.

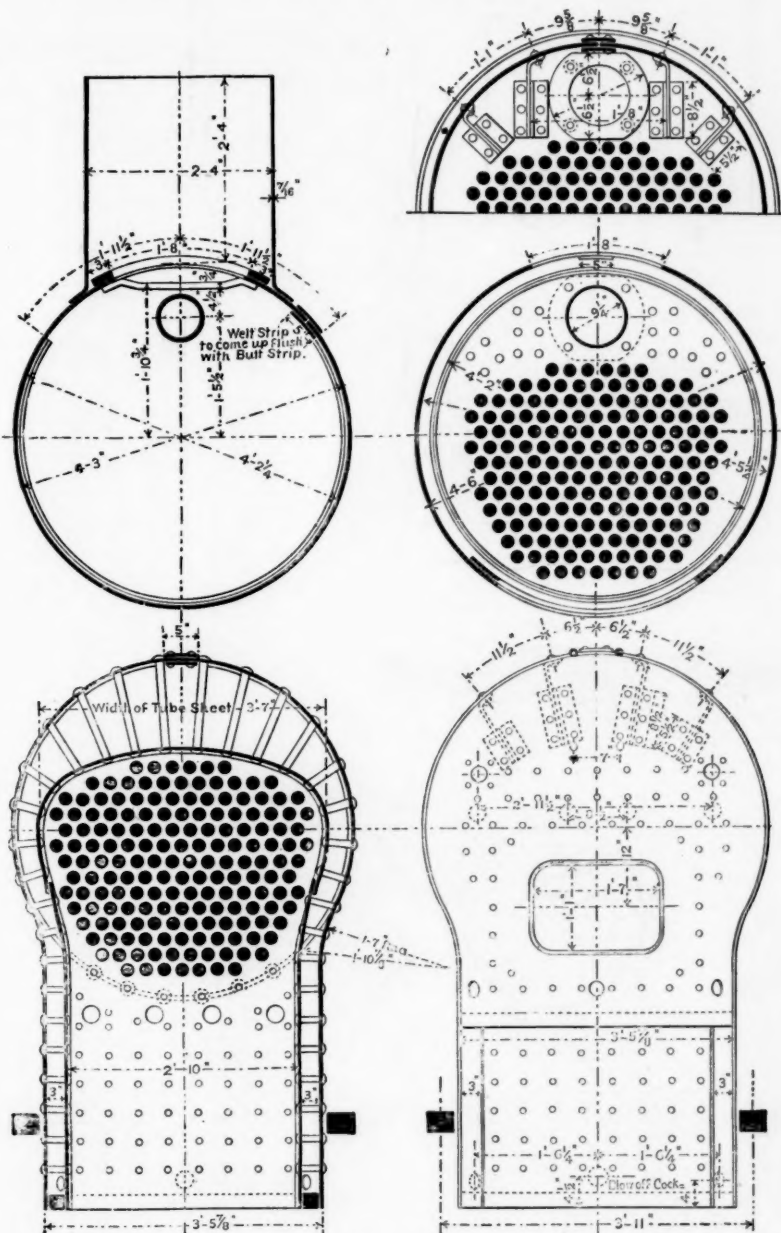
Plate III. is the boiler of a consolidation engine built by Thos. N. Ely, of the Pennsylvania Railroad. Size of cylinders, 20 by 24 in., and diameter of drivers 50 in.

This type of boiler you are all very probably familiar with, it having a sloping boiler crown.

It is 54 in. in diameter at smallest ring and is made up of sectional rings 38 in. in length. It has 188 2½-in. flues 12 ft. 11 in. in length.

The fire-box is 8 ft. long with water grates and fire-brick

Ames, W. O., Florida Central & Western.
Atmore, C. P., Louisville & Nashville.
Affleck, E. T., Cleveland, Akron & Columbus.
Baldwin, Wm. S., Buffalo, New York & Philadelphia.
Barker, James, Wisconsin Central.
Barry, Thomas P., Cincinnati, Washington & Baltimore.
* Barnes, G. K., Northern Pacific.
* Brown, L. S., Georgia Pacific.
* Blower, J. J., Chicago, Pekin & South Western.
Best, J. H., Keokuk & St. Louis Line.
Boothby, F. E., Maine Central.
Bronson, H. M., Indiana, Bloomington & Western.
Carpenter, A. V. H., Chicago, Milwaukee & St. Paul.
* Clark, J. S., Louisville, Evansville & St. Louis.
Carpenter, T. P., Lake Superior Transit Co.
Carpenter, W. A., Detroit, Lansing & Northern.
Clark, A. E., New York, Pennsylvania & Ohio.
Charlton, Jas., Chicago & Alton.



Sections and End View of Boiler (see Plate I.) for Consolidation Locomotives for New York, West Shore & Buffalo Railroad.

arch, supported by water tubes entering the crown and flue sheets.

Plate IV. is the boiler of an eight-wheel engine also built by T. N. Ely of the Pennsylvania Railroad.

This boiler is wagon-top in form, is 54 in. in diameter at smallest ring and has 193 2½-in. flues, 11 ft. 1 in. long. The fire-box is 73 in. long, with flat crown, stayed by crown-bars and has a fire-brick arch supported by water tubes entering crown and flue sheets. The front barrel, flue and smoke arch sheets are secured together by a peculiar wrought iron ring, each sheet being riveted to this ring independent of the others.

[TO BE CONTINUED.]

National Association of General Passenger & Ticket Agents.

We give below, nearly in full, the official report of the semi-annual meeting of this Association, held in Chicago, Sept. 18 and 19 last:

FIRST DAY.

The Convention was called to order at 11 a.m., Vice-President Taylor in the chair.

A letter was read by the Secretary from Mr. Lucius Tuttle, President, announcing his inability to be present, on account of illness.

A call of the roll developed the fact that a quorum was present.

The Executive Committee took favorable action on all credentials presented to them, and reported to that effect through their Chairman, Mr. Townsend.

The following is the list of members present. Those marked with a * have become members since last Convention.

Allen, D. C., South Carolina.

Collbran, H., Alabama Great Southern.
Cummings, S. W., Central Vermont.
Connor, Geo. L., Old Colony Steamboat Co.
Danley, W. L., Nashville, Chattanooga & St. Louis.
*Demarest, I. L., New York, Susquehanna & Western.
Dawes, A. C., Kansas City, St. Joseph & Council Bluffs.
Egan, John, Cincinnati, Indianapolis, St. Louis & Chicago.
Emmerson, T. M., Atlantic Coast Line.
Emery, I. S., Rochester & Pittsburgh.
Flanders, D. J., Boston & Maine.
Fenno, John A., Boston, Revere Beach & Lynn.
Fee, Chas. S., Northern Pacific.
Ford, E. A., P. C. & St. L. & Penna. Co.
Foye, Chas. H., Portland & Ogdensburg.
*Gray, C. B., Houston & Texas Central.
Heald, F. O.,itchburg.
Hooper, S. K., Hannibal & St. Joseph.
Harrison, F. E., New Haven & Derby.
Harrison, W. H., Columbus, Hocking Valley & Toledo.
Hill, Wm., Chicago & Eastern Illinois.
Holwill, W. F., Delaware, Lackawanna & Western.
*Hynes, S. B., Southern Kansas Ry.
Johnson, W. P., Lake Shore & Michigan Southern.
*Kile, Chas. McD., Valley, of Ohio.
Keller, Murray, Louisville, New Albany & Chicago.
Lambert, C. E., Troy & Boston.
Lord, C. K., Baltimore & Ohio.
Liscomb, J. F., Portland Steam Packet Co.
MacDonell, A. O., Florida Transit Co.
*Mercier, J. A., Georgia & Florida Inland Steamboat Co.
Morse, F. W., Montpelier & Wells River.
Nimmo, C. A., Troy & Boston.
Orme, A. J., Atlanta & West Point.
Pope, A., Shenandoah Valley.
Pope, A., Norfolk & Western.

Pope, A., East Tennessee, Virginia & Georgia.
 Pearce, Walter, Hartford & Connecticut Western.
 Ruggles, O. W., Michigan Central.
 Slaughter, Mercer, Virginia Midland, Western North
 Carolina and Richmond & Danville Lines.
 Shattuc, W. B., Ohio & Mississippi.
 Shephard, F. C., Pensacola & Atlantic.
 Smith, A. D., Pittsburgh & Lake Erie.
 *Smith, Geo. H., St. Louis & Cairo.
 Smith, A. J., C. C. & I. and I. & St. L. (Ree Line).
 *Snow, S. W., Chicago & Atlantic.
 Smith, Geo. W., Lake Erie & Western.

Special credentials for this meeting were presented as follows:

By E. L. Lomax, representing the Chicago, Burlington & Quincy; by A. J. Orme, representing the Western Railway of Alabama; by Geo. B. Reeve and Wm. Edgar, representing the Chicago & Grand Trunk and Grand Trunk; by C. W. Adams, representing the Pennsylvania Co.; by C. C. Cobb, representing the Pittsburgh, Cincinnati & St. Louis; by J. M. Chesbrough, representing the Vandalia Line; by H. R. Dering, representing the Jeffersonville, Madison & Indianapolis, and by J. C. Ernst, representing the Chicago, St. Louis & Pittsburgh.

Unfinished business being next in order, the Secretary stated that at the Montreal meeting a committee of 15 had been appointed by the Chair, of which Mr. Chandler was Chairman, to make rates for the Triennial Conclave of Knights Templar at San Francisco, which committee had incurred expenses to the extent of \$13.45.

On motion, duly seconded, the account was ordered paid. The account presented by the Committee appointed at the New York meeting, Mr. Townsend Chairman, to make rates to the Conclave from intermediate points, amounting to \$35, was also ordered paid.

By request the Secretary read several communications

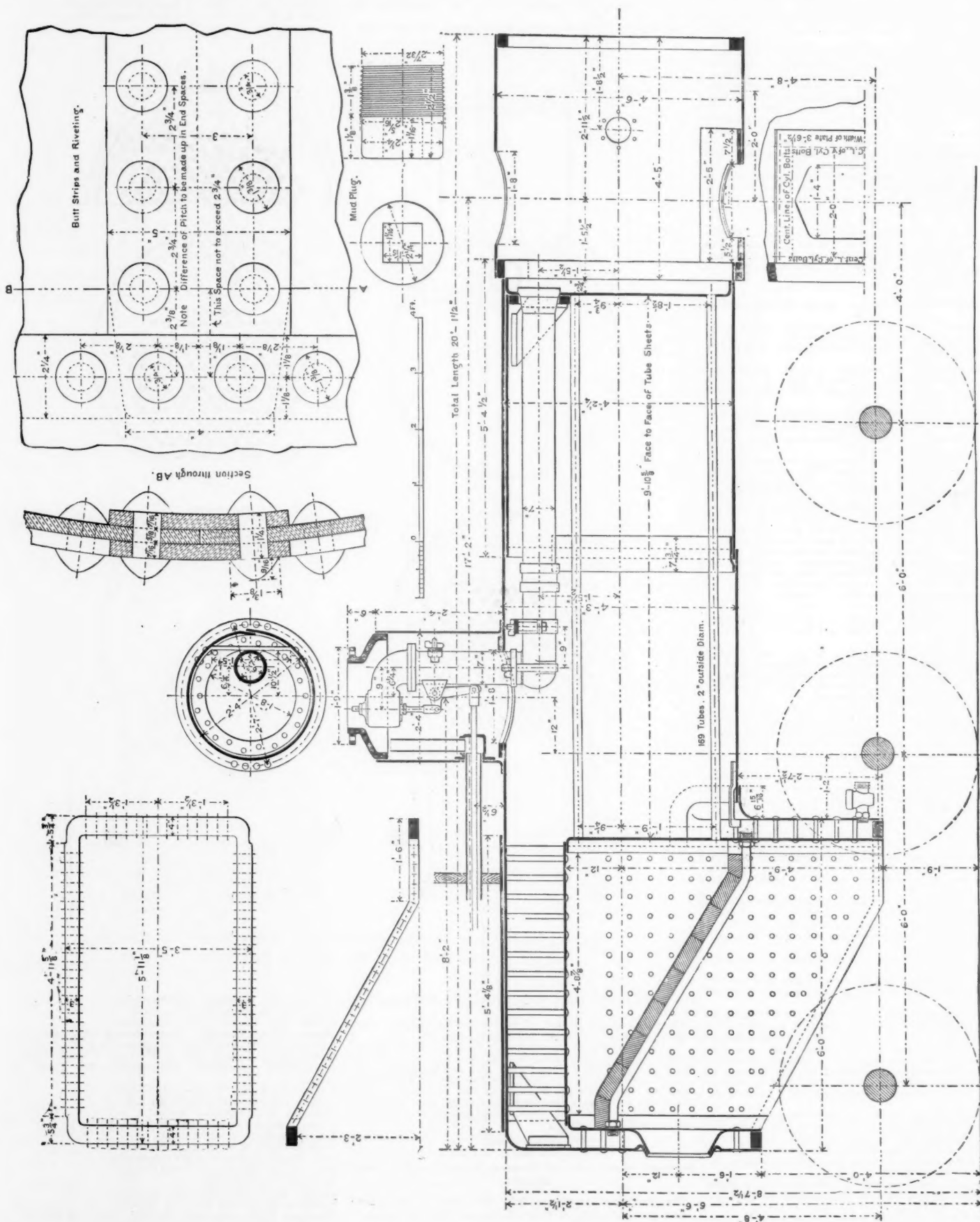


Plate II.
 BOILER FOR MOGUL LOCOMOTIVES FOR THE NEW YORK, WEST SHORE & BUFFALO RAILROAD.
 Designed by the late Howard Fry.

Stevenson, Samuel, Cincinnati, Hamilton & Dayton.
 Taylor, C. A., Richmond, Fredericksburg & Potomac.
 Thrall, W. A., Chicago & Northwestern.
 Townsend, H. C., Missouri Pacific.
 Waller, Charles J., Mobile & Ohio.
 *White, W. F., Atchison, Topeka & Santa Fe.
 Wilson, E. P., Cincinnati Southern.
 Wishart, D., St. Louis & San Francisco.
 Wood, J. R., Penna.
 Wrenn, B. W., Western & Atlantic.
 Honorary Member Present.
 Samuel Powell, Chicago, Ill.
 Total number of members, 156; number present, 73.

The Chair announced that, unless objections were offered, the next order of business, which was the making of passenger rates, would be passed, and as there were none, it was so ordered.

The selection of the next place of meeting was next in order. The following points were placed in nomination: Louisville, Cincinnati, Kansas City, New Orleans, New York and Atlanta.

The result of the roll-call was as follows:
 Louisville 4, Cincinnati 32, Kansas City 3, New Orleans 23, Atlanta 1.

The Chairman announced Cincinnati as the next place of meeting.

showing that the rule adopted at the New York meeting, restricting the amount of baggage to 250 pounds in one package, had not been uniformly enforced. Some discussion ensued which was participated in by Messrs. Johnson, Stevenson, Wilson and Townsend. The resolution referred to is as follows:

"Be it Resolved, That it is impracticable to check single pieces of baggage in excess of 250 pounds weight, and that after May 1, 1883, no single piece of baggage in excess of 250 pounds weight will be checked, and that the general baggage agents of the respective lines be instructed to enforce this resolution."

On motion, duly seconded, the following was offered:

"Resolved, That the Secretary furnish a copy of the resolution to the Chairman of the Joint Executive Committee, with a request that the lines in that Committee be asked to apply the rule in their territory."

Adopted unanimously.

A recess of 15 minutes was ordered by the Chair.

Immediately after the call to order, the following was offered by Mr. Townsend, seconded by Mr. Chesbrough:

"Resolved, That from and after Oct. 1, 1883, passenger rates be absolutely maintained between all points, by all lines represented in this Association."

After a long discussion, participated in by Messrs. Townsend, Wilson, Charlton, G. W. Smith, B. W. Wrenn and Stevenson, a vote of roads was called for, with the following result:

Ayes, 58; refused to vote, 1; not voting, none.

On motion, adjourned until 11 A. M., Sept. 19.

SECOND DAY.

Wednesday, Sept. 19, 1883, Convention called to order at 11 A. M., Vice-President Taylor in the Chair.

On motion of Mr. Thrall, duly seconded, Mr. Geo. A. Dammun was unanimously elected an honorary member.

Miscellaneous business being next in order, the following was offered, seconded and unanimously adopted:

"Recognizing the convenience and value of the 'Manual of Coupon Ticket Points and Coupon Ticket Agents,' as compiled by A. E. Little, and to further its completion so that it will include information for all railway and transportation lines engaged in through passenger traffic."

"Be it Resolved, That this Association cordially recommends this work to all persons having coupon ticket interest in charge and earnestly request general ticket agents to furnish the necessary information to carry this work on to a successful completion so that it will give complete and accurate information for each number issued."

By A. J. Smith, seconded by Mr. Shattuc:

"Resolved, That a committee of 15 be appointed by the Chair, subject to the approval of the Convention, to report at next meeting for the purpose of reporting upon the practicability of the establishment of Rate Bureaus, having such jurisdiction as may be agreed upon. The purpose and intent of the proposition being to delegate to such bureaus full and exclusive authority for making all through rates for the entire country. A further idea being to have each of said bureaus presided over by a chairman and such assistants as may be necessary for the proper conduct of the business. It is to be understood that the expenses for conducting the business shall be divided upon the basis of the amount of revenue derived by each line from their through passenger traffic."

After some remarks by A. J. Smith, Messrs. Shattuc and Atmore, the resolution was unanimously adopted. The Chair appointed the following named gentlemen to serve as such committee: C. P. Atmore, T. M. Emerson, C. S. Stebbins, J. N. Abbott, W. A. Thrall, D. J. Flanders, J. R. Wood, Murray Keller, F. Chandler, E. Gallup, A. J. Smith, Jas. Charlton, W. F. White, E. A. Ford and A. Pope.

The Secretary announced that immediately after adjournment there would be a meeting of gentlemen interested in Florida business.

The following was next offered and unanimously adopted: "Resolved, That the thanks of this Association are due and are hereby tendered to the proprietors of the Grand Pacific Hotel for the excellent accommodation and unexceptionable facilities afforded for the transaction of its business."

On motion adjourned sine die.

THE SCRAP HEAP.

An Old Story Retold.

"I don't expect to live much longer, and after I am dead I want you to put in the paper the story of that ride I had from Prospect to Brocton in 1869."

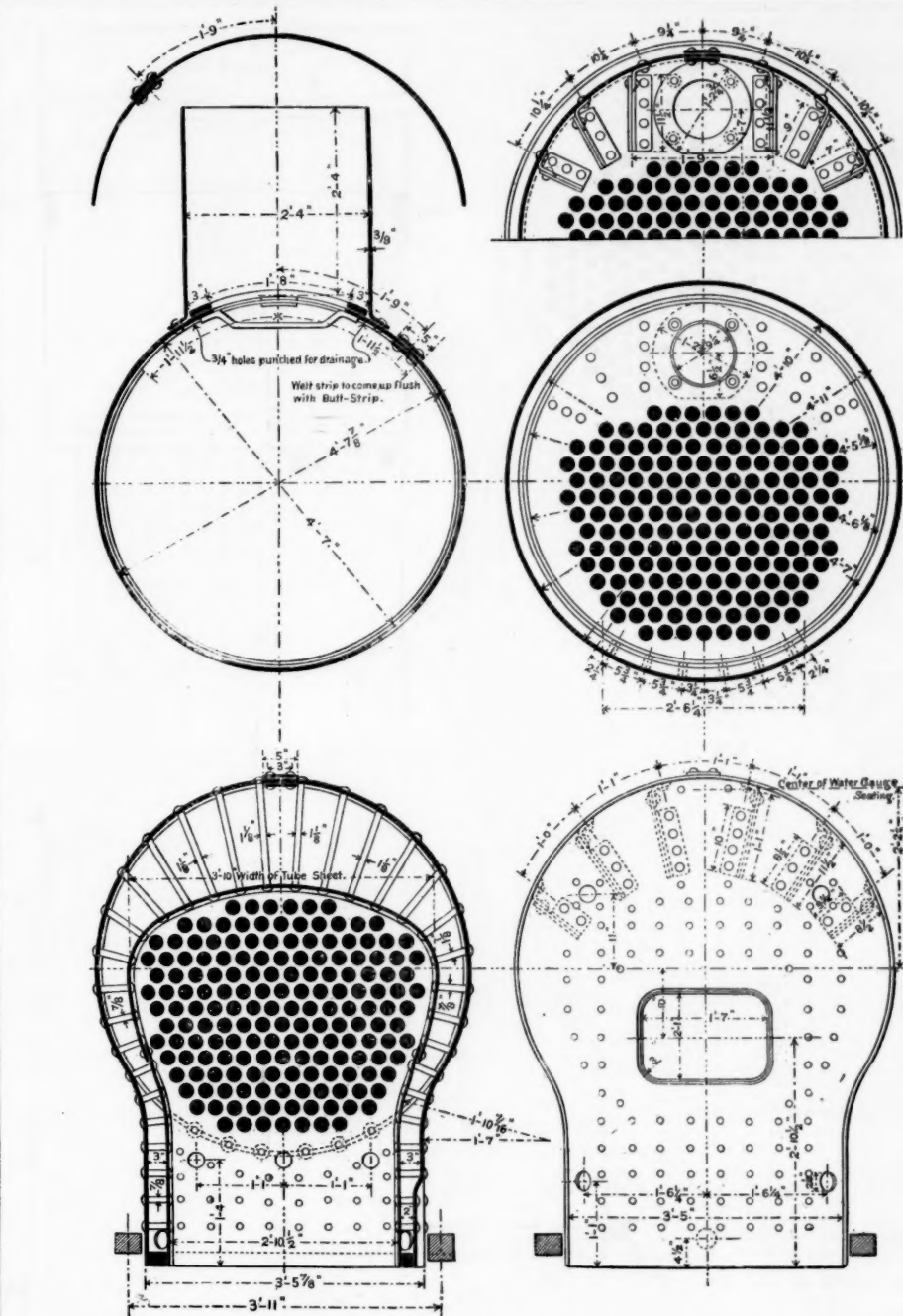
The speaker was Duff Brown, an old locomotive engineer who was living at his home in Portland, N. Y., dying with consumption. This was several weeks ago. On the 7th of this month he died. He was nearly 60 years old. His story of the awful ride is this:

"In 1869 I was running a mixed train on the Buffalo, Corry & Pittsburgh Railway. The track between Prospect and Mayville Summit and Brocton Junction is so crooked that, while the distance is actually only 10 miles, the curves make it by rail 14. The grade for the whole distance over 70 ft. to the mile.

"About 9 o'clock on the night of August 17, 1869, we reached the summit with a train of two passenger cars, six oil cars, and a box car. The latter contained two valuable trotting horses, and their keepers with them, on their way, I believe, to the Cleveland meeting. There were 50 or 60 passengers in the two cars. I got the signal from the conductor to start, and I pulled out. We had got under considerable headway, when, looking back, I saw that an oil car in the middle of the train was on fire. I reversed my engine and whistled for brakes. The conductor and brakeman jumped off. They uncoupled the passenger cars and set the brakes on them, bringing them to a stop. Supposing that the brakes on the burning oil cars would also be put on, I called to a brakeman on the box car to draw the coupling pin between that car and the head oil tank, backing so that he could do it, intending to run far enough away to save the box car and locomotive. As I ran on down the hill after the pin had been drawn, what was my horror to see the burning cars were following me at a speed that was rapidly increasing. The men had not succeeded in putting on the brakes. I saw that the only thing to be done was to run for it to Brocton, and the chances were that we would never reach there at the speed which we would be obliged to make around those sharp reverse curves, where we had never run over 20 miles an hour.

"When I saw the flaming cars—for the whole six were on fire by this time—plunging after me, and only a few feet away, I pulled the throttle open. The oil cars caught me, though, before I got away. They came with full force against the rear of the box car, smashing in one end and knocking the horses and their keepers flat on the floor. The heat was almost unbearable, and, do my best, I couldn't place more than 30 ft. between the pursuing column of fire and ourselves. By the light of the furnace, as my fireman opened the door to pile in the coal, I caught sight of the face of one of the horsemen in the box car, he having climbed up to the grated opening in the end. It was as pale as death, and he begged me for God's sake to give her more steam. I was giving her then all the steam she would carry, and the grade itself was enough to carry us down at the rate of 50 miles an hour. We went so fast that the engine couldn't pump. Every time we struck one of those curves the old girl would almost run on one set of wheels, and why in the world she didn't topple over is something I never could understand. She seemed to know that it was a race for life and death and worked as if she were alive.

"The night was dark, and the road ran through woods, deep rock cuts, and along high embankments. There were, thundering along at lightning speed, and only a few paces behind us, that fiery demon in full pursuit. There were 50,000 gallons of oil in those tanks, at least, and it



Sections and End-View of Boiler (See Plate II.) of Mogul Locomotives for New York, West Shore & Buffalo Railroad.

was all in flame, making a flying avalanche of fire 500 ft. long. The flames leaped into the air nearly 100 ft. Their roar was like that of some great cataract. Now and then a tank would explode with a noise like a cannon, when a column of flame and pitchy smoke would mount high above the body of the flames, and showers of burning oil would be scattered about in the woods. The whole country was lighted up for miles around.

"Well, it wasn't long, going at the rate we made, before the lights of Brocton came in sight down the valley. The relief I felt when these came in view was short-lived, for I remembered that train No. 8 on the Lake Shore would be due at the junction just about the time we would reach it. No. 8 was the Cincinnati express. Our only hope all along during the race had been that the switchman at the junction would think far enough to open the switch there, connecting the cross-cut track with the Lake Shore track, and let us run in on the latter, where the grade would be against us, if anything, and where we could soon get out of the way of the oil cars. The switch, of course, would be closed now for the express, and our last hope was gone, unless the express was late, or somebody had sense to flag it. While we were thinking of this we saw the express tearing along toward the junction. Could we reach the junction, get the switch, and the switch be set back for the express before the latter got there? If not there would be an inevitable crash, in which not only we, but probably scores of others, would be crushed to death. All this conjecturing did not occupy two seconds, but in that two seconds I lived years.

"Good God! I said to my fireman, 'what are we to do now!'

"The fireman promptly replied—and he was a brave little fellow—that I should whistle for the switch and take the chances. I did so. That whistle was one prolonged yell of agony. It was a shriek that seemed to tell us that our brave old engine knew our danger and had her fears. Neither the fireman nor myself spoke another word.

"Thanks be to God! The engineer on the express train, seeing us tearing down that mountain with an eighth of a mile of solid fire in close pursuit of us, knew in a moment that only one thing could save us. He whistled for brakes and got his train to a stand not 10 ft. away from the switch. The switchman now answered our signal, and we shot in on the Shore track and whizzed on up by the depot and through the place like a rocket. The burning cars followed us in, of course, but their race was run. They had no propelling power now, and after chasing us for a mile they gave up the pursuit, and in three hours there was nothing left of them but smoking ruins.

"My fireman and I were so weak when we brought our locomotive to a stop that we could not get out of the cab. The two horsemen were unconscious in the box car. The

horses were ruined. And how long do you think we were in making that 16 miles! We ran two miles up the Lake Shore track. Just 12 minutes from the Summit to the spot where we stopped! A plumb 50 miles an hour, not counting the time lost getting under headway and stopping beyond Brocton."—Rochester (N. Y.) Democrat and Chronicle.

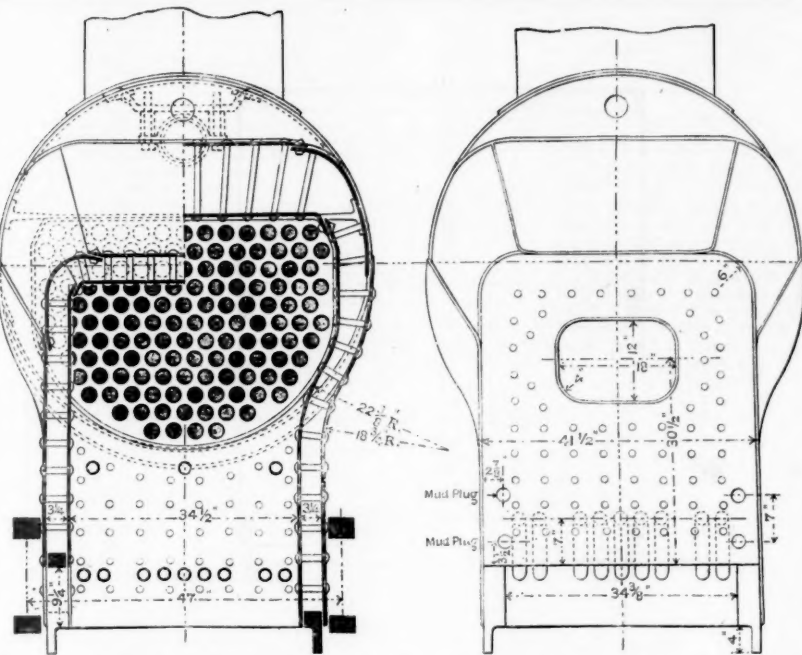
Whistles.

The New York & New England Railroad has recently adopted for its passenger locomotives a heavy, deep-toned whistle, which is easily distinguished from the shrill whistle of the freight engines, and which is designed to be another factor of safety for travel, as all train and track bands know that the "bull-whistle" denotes a passenger train, and are thus warned to have switches closed and tracks clear for its passage.

ANNUAL REPORTS.

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Transverse Section and End View of Boiler (See Plate III) for Consolidation Engines of Pennsylvania Railroad.

Columbia & Greenville.....	59	Pittsburgh, Cin. & St. Louis.....	312
Concord.....	350	Pitts. Ft. Wayne & Chi.....	340, 495
Conn. & Passumpsic Rivers.....	605	Pittsburgh & Lake Erie.....	40
Connecticut River.....	105	Portland & Ogdensburg.....	100
Delaware & Hudson Canal.....	100, 122	Portland & Rochester.....	100
Delaware, Lacka. & Western.....	122	Providence & Worcester.....	104
Del., Lac. & W. Leased Lines.....	407	Rochester & Pittsburgh.....	41
Des Moines & Fort Dodge.....	302	Rutland.....	511
Denver & Rio Grande.....	302	St. Joseph & Western.....	477
Detroit, Lansing & No.....	629	St. L., Alton & Terre Haute.....	651
Erie & Pittsburgh.....	495	St. L. & Cairo.....	652
European & North American.....	22	St. Louis, Iron Mt. & So.....	107, 231
Fitchburg.....	40	St. Louis & San Francisco.....	197
Flint & Pere Marquette.....	40	St. L., Vandalia & Terre Haute.....	246
Georgia.....	312, 574	St. Paul & Duluth.....	104
Grand Rapids & Indiana.....	651	St. Paul, Minn. & Manitoba.....	510, 630
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Hanover Junc. Han. & Gettysb.....	355	South Carolina.....	39, 121
Hartford & Conn. Western.....	7	Southern Pacific.....	598
Housatonic.....	196	Sullivan County.....	427
Houston & Texas Central.....	39	Sussex.....	497
Huntington & Broad Top.....	121	Terre Haute & Indianapolis.....	302
Illinois Central.....	167, 180, 182	Texas & Pacific.....	231
Indiana, Bloom. & Western.....	443	Toledo, Ann Arbor & Gd. Trk.....	510
Indianapolis & Vincennes.....	410	Union Pacific.....	164
International & Great N. W.....	321	Utah Central.....	246
Jeffersonville, Madison & Ind.....	495	Valley of Ohio.....	290
Kentucky Central.....	246	Vermont Valley.....	427
Lake Shore & Mich. So.....	278, 298, 306	Vicksburg & Meridian.....	536
Lawrence.....	40	Virginia Midland.....	100
Lehigh Coal & Navigation Co.....	134	Wabash, St. Louis & Pac.....	167, 180
Lehigh Valley.....	73	Warren.....	407
Little Rock & Ft. Smith.....	278	Western R. R. Association.....	37
Long Island.....	73	West Jersey.....	213
Louisville & Nashville.....	510, 651	West Va. Central & Pittsburgh.....	231
Maine Central.....	21	Wilmington & Northern.....	568
Manchester & Lawrence.....	365	Wisconsin Central.....	629
Manhattan.....	181	Woodstock.....	40
Massillon & Cleveland.....	495	Worcester & Nashua.....	40
Meadville.....	495	York & Peachbottom.....	355
Mexican National.....	478		

Louisville & Nashville.

The report of President C. C. Baldwin for the year ending June 30, 1883, gives the following statement of the road worked at the close of the year:

"The length of the roads operated by this company at the close of its fiscal year, June 30, 1883, is as follows:

"First—Owned absolutely or through the ownership of the entire capital stock:

L. & N. R. R.—Main Stem.....	185.23
Bard-town Branch.....	17.30
Lebanon-Knoxville Branch.....	170.80
Memphis Line.....	258.50
Evansville, Henderson Nashville Division.....	151.45
Pensacola Division.....	44.54
Pensacola & Selma Division.....	67.63
Cincinnati Division.....	110.10
Lexington Branch.....	67.00
Narrow-gauge.....	11.00
St. Louis Division.....	208.00
Mobile & Montgomery.....	178.80
New Orleans & Mobile.....	141.00
Pontchartrain Railroad.....	5.00

"Second—Operated under lease:

Nashville & Decatur Division.....	119.00
Southern Division, Cumberland & Ohio.....	30.50
Northern Division, Cumberland & Ohio.....	26.72
Shelby Branch.....	19.10
Railway Transfer.....	4.13
Glasgow Railroad.....	10.50
Montgomery & Selma Division.....	50.00

"Third—Operated for account of South & North Alabama Railroad Co.:

South & North Alabama.....	182.58
Wetumpka Branch.....	6.30

Total.....2,065.27

"Fourth—Lines in which the Louisville & Nashville Railroad Co. is interested as owner of a majority of the capital stock of the company operating the same, outside of its own system:

Nashville, Chattanooga & St. Louis.....	554
Pensacola & Atlantic.....	161
Owensboro & Nashville (completed, 44 miles; under construction 41 miles).....	85
Nashville & Florence (completed 20 miles; under construction, 36 miles).....	56

Total.....856

"Fifth—Lines in which the Louisville & Nashville Railroad Co. is interested as joint lessee with the Central Railroad Co. of Georgia:

Georgia R. R. and dependencies.....	614 miles
-------------------------------------	-----------

This makes a total of 3,535 miles in which the company is

interested. The mileage worked and covered by the statements in the report was 2,065.27 miles at the close of the year; the average for the year was 2,032 miles.

Additions during the year were the Madisonville Branch of the Evansville, Henderson & Nashville Division, 16.23 miles, and the extension of the Lebanon-Knoxville Branch from Livingston, Ky., to Jellico, 60.50 miles.

In addition to the road worked the company owns the Cecilian Branch, 46 miles, which is leased to the Chesapeake, Ohio & Southwestern Co., and the Richmond Branch, 33.80 miles, leased to the Kentucky Central Co., making the total road owned 1,696.15 miles.

The statement of cost, resources and liabilities is as follows, somewhat condensed:

Liabilities.	
Capital stock listed in New York.....	\$25,000,000.00
" " in treasury.....	5,000,000.00
Total stock.....	\$30,000,000.00
Funded debt.....	\$66,536,230
Less bonds included in trust bonds.....	8,633,000
	57,903,230.00
Debentures on account of recent acquisitions.....	567,400.00
City of Louisville bonds.....	850,000.00
Bills payable.....	326,558.32
Due sundry railroads and persons.....	502,657.99
Back dividends unclaimed.....	36,094.43
Bills and pay-rolls for June.....	628,278.48
Interest due July 1 and Aug. 1.....	445,358.92
Profit and loss account.....	2,762,982.43
Total.....	\$94,222,500.57

Cost and Resources.	
Cost of road to June 30, 1883.....	\$67,385,425.70
Stocks and bonds of leased and controlled lines.....	4,688,232.31
U. S. 3 per cent. bonds.....	868,243.09
Louisville & Nashville stock in treasury.....	5,000,000.00
Advances to leased and controlled lines.....	2,949,637.74
Stock and bonds held in trust.....	\$21,231,837.49
Less L. C. & L. stock included in cost of road.....	3,070,959.75
Less bonds included in trust bonds.....	8,633,500.00
Total.....	\$11,703,959.75
Due from transportation.....	9,527,877.74
Bills receivable.....	506,661.47
Sundry railroads and persons.....	586,584.59
Real estate, quarry and timber lands.....	858,084.90
Shop and road supplies and fuel.....	715,772.71
Cash.....	833,132.33
Total.....	\$94,222,500.57

The increase in cost of road during the year was \$5,791,502.54, as reported.

The bonds included in trust bonds, and which have not been sold, but are pledged as part of the security for the \$10,000,000 trust bonds, include \$3,208,000 Louisville, Cincinnati & Lexington general mortgage bonds; \$1,284,000 Pensacola & Selma Division bonds; \$2,677,000 Mobile & Montgomery Division bonds, and \$1,500,000 Lebanon-Knoxville Branch bonds.

Changes in bonded debt were the redemption of \$30,000 main office mortgage; \$50,000 Louisville, Cincinnati & Lexington first mortgage; \$35,890 Memphis, Cleveland & Louisville sterling first mortgage; \$128,000 car-trust certificates; \$20,658 Louisville, Cincinnati & Lexington car lines; a total of \$264,548, against which \$50,000 Louisville, Cincinnati & Lexington bonds were issued, making a net reduction of \$214,548 in the funded debt.

The report says: "The capital stock of the company was stated in last annual report, \$18,133,513, not including certain stock held by the city of Louisville (as collateral for the loan of its \$850,000 bonds to this company in 1856-57). This stock since the close of the last fiscal year was released, the company substituting therefore \$850,000 United States bonds, bearing 3 per cent. interest. The stock thus released made the outstanding capital \$21,213,513.

"The stockholders at the annual meeting, held in Louisville, Oct. 4, 1882, authorized the increase of the capital stock of the company to \$30,000,000, an increase of \$8,786,487.

"Of this new stock, \$3,786,487 was listed at the New York Stock Exchange, making the total stock listed and outstanding \$25,000,000. The remaining \$5,000,000 of the stock has not been listed, and is now in the treasury of the company.

"A considerable part of the stock resulting to the treasury from the release above mentioned, and of the increased stock so listed at the Exchange, has been sold, realizing \$2,575,000 to the treasury. * * * * *

"The floating debt of the company (excluding bills and

pay-rolls for June and coupon interest due July 1 and Aug. 1) shows \$1,065,210.74 against \$2,662,554.42, as per last year's report."

The stock of the company outstanding was \$14,467, and the funded debt \$33,509 per mile owned (including 32 miles under construction), a total of \$47,046.

The traffic stated is as follows:

	1882-83.	1881-82.	Inc. or Dec.	P. c.
Passenger-miles.....	129,272,559	111,137,575	I. 18,134,984	16.3
Ton-miles.....	664,130,416	566,639,434	I. 97,490,982	12.3
Av. rate:				
Per pass.-mile.....	2.610 cts.	2.710 cts.	D. 0.100 ct.	3.7
Per ton-mile.....	1.323 "	1.349 "	D. 0.026 "	1.9

Fuller statements of traffic will be received with the complete report, which is not yet issued.

The earnings for the year were as follows:

	1882-83.	1881-82.	Inc. or Dec.	P. c.
Freight.....	\$8,786,575	\$8,050,339	I. \$736,236	9.1
Passengers.....	3,379,178	3,007,465	I. 371,713	12.3
Mail and express.....	582,486	527,024	I. 55,462	10.5
Miscellaneous.....	489,677	402,917	I. 86,760	20.8
Total.....	\$13,234,916	\$11,987,745	I. \$1,247,171	10.4
Expenses.....	8,090,595	7,424,371	I. 670,224	9.0
Net earnings.....	\$5,135,321	\$4,563,374	I. \$571,947	12.7
Gross earn. per mile.....	6.573	6.082	I. .491	7.1
Net " " ".....	2.527	2.313	I. .214	9.3
Per cent. of exps.....	61.20	61.97	D. .077	....

The average mileage worked was 2,032 miles last year, and 1,970 miles the preceding year.

The income account of the company for the year is as follows:

Net earnings from traffic.....	\$5,135,320.53
Realized from investments.....	134,770.05
Total credited to income account.....	\$5,270,090.58
Interest and rentals.....	\$4,207,984.00
Taxes.....	339,400.18
	\$4,547,383.18
Net surplus for the year.....	\$722,607.40

Of this amount, \$397,481.06 has been absorbed in the payment of sinking funds, reducing to that extent the bonded indebtedness; and \$250,065.35 was expended in new construction, improving the property and leading to a reduction in the cost of operation. The surplus remaining after these payments was \$75,152.99.

CONSTRUCTION.

The expenditure during the year for improvements and additions to the several properties were as follows:

Bridges.....	\$215,479.23
Side-tracks.....	52,928.54
Depots.....	34,932.71
Shops, etc.....	9,689.19
Water-stations.....	1,691.32
Engines.....	165,873.82
Passenger coaches.....	192,171.58
Freight cars.....	13,447.13
Terminal facilities.....	46,773.58
Fencing.....	10,384.35
Machinery.....	6,041.64
Tunnels and culverts.....	3,126.70
Real estate.....	7,150.00
Electric signals.....	3,541.58
Miscellaneous.....	2,261.19

Total expenditures for construction and equipment.....\$675,512.57

From this has been deducted a credit on account of over-run (in the year 1882) in materials charged out above cost.....142,652.07

Net amount charged to construction account.....\$532,860.50

This amount was provided for as follows: \$250,065.35 from earnings, and \$282,795.15 from the car-trust issue of 1881.

During the year 160 miles of track were relaid with steel rails in place of iron, and charged to road repairs.

The Lebanon-Knoxville extension, 60½ miles, was laid in steel throughout.

The rails on the entire line, June 30, 1883, were as follows:

Steel.....	Miles.
Iron.....	1,276
Total.....	789

Of the 2,065 miles of road opened, 1,713 miles are main lines, of which 1,284 miles are laid in steel, leaving 449 miles of main line yet to be laid in steel.

Of the iron rails taken up and replaced by steel, 1,396 tons have been used on branch roads, 1,098 tons used in building new sidings and extending old ones, 1,657 tons sold to railroads in which this company has a controlling interest, and 14,800 tons not suitable for above uses sold, and the proceeds covered into the treasury.

GENERAL REMARKS.

The report says: "The extension of the Lebanon-Knoxville branch southward from Livingston reached the Cumberland River in December, 1882, and the Tennessee state line at Jellico, 60½ miles from Livingston, in April, 1883. It was opened for local traffic to Williamsburg, 49 miles south of Livingston, in December, and through trains between Louisville and Knoxville commenced to run June 4.

"The earnings of this branch for April and May increased 56 per cent. over the corresponding months of 1882, and for June 117 per cent.

"The Madisonville Branch, extending from Madisonville, on the main line of the Evansville, Henderson & Nashville Division, to Providence, Ky., 16 miles, was completed and opened to business in November, 1882. It is operated as a part of the Evansville, Henderson & Nashville Division, and its earnings are included in those reported for that division.

"The Pensacola & Atlantic road, running eastward from Pensacola, Fla., was finished to the Apalachicola River in January, 1883, and the bridge over that river at Chattahoochee was completed in April, 1883, enabling through connections at that point with the railroad systems of Southern Georgia and of Eastern and Central Florida.

"It is not operated as a part of the Louisville & Nashville system, and its earnings do not enter into those reported by this company. The Louisville & Nashville Co. owns \$1,550,000 of the \$3,000,000 capital stock.

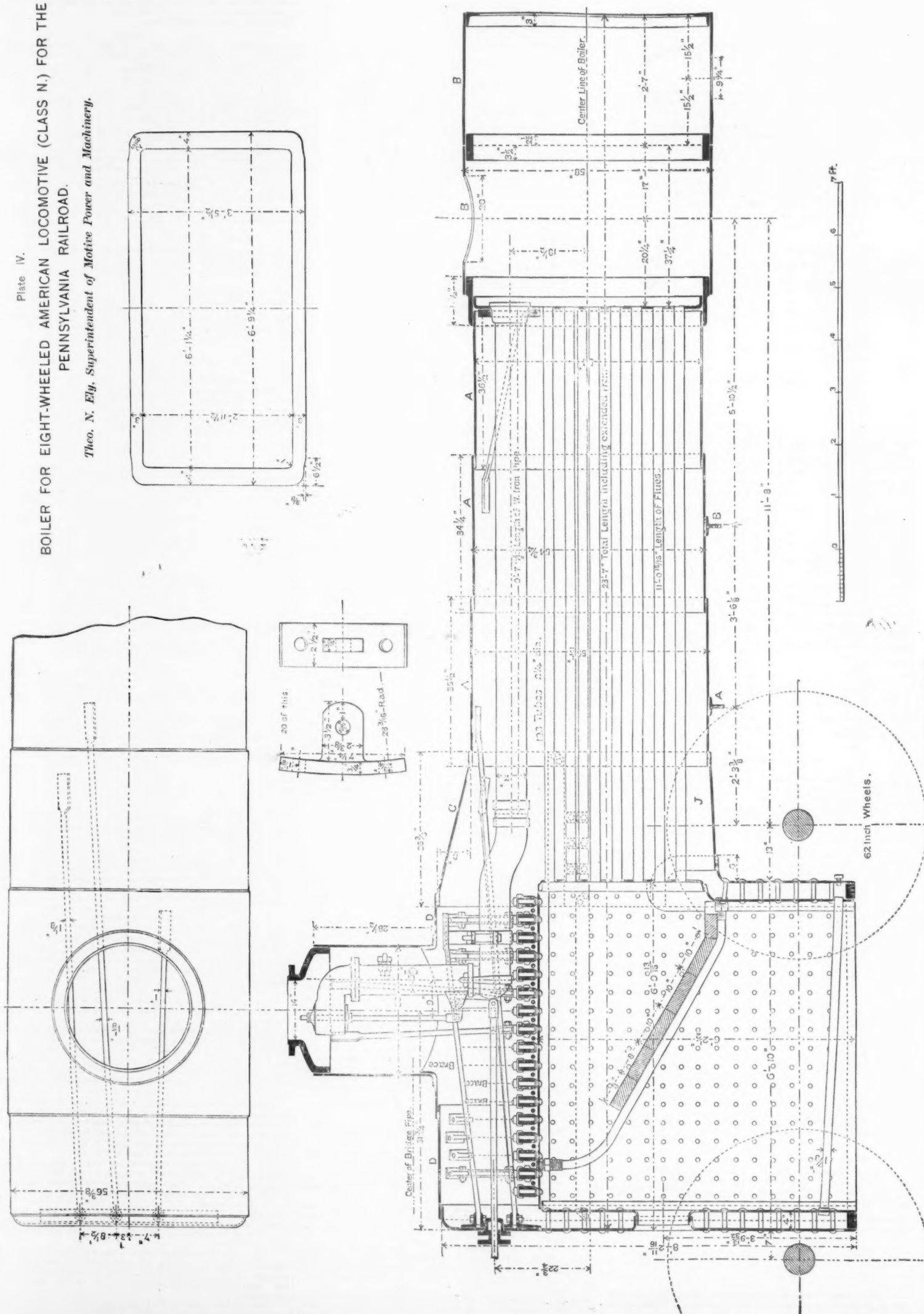
"Of the 4,000,000 acres of land to which the Pensacola & Atlantic Railroad Co. is entitled under its land grants, 1,800,000 acres have been located and titles secured; and titles to the remaining 2,200,000 acres will be secured as soon as the lands can be located.

"The Louisville & Nashville Co. has advanced to the Henderson Bridge Co. during the year \$86,723, making total amount advanced to June 30, 1883, \$146,885, all of which has been expended on account of the bridge and its approaches.

"This includes payments for right of way for the greater part of the nine miles of railroad which the Bridge Co. is building from the terminus of the bridge in Indiana to the city of Evansville.

Plate IV.
BOILER FOR EIGHT-WHEELED AMERICAN LOCOMOTIVE (CLASS N.) FOR THE
PENNSYLVANIA RAILROAD.

Theo. N. Ely, Superintendent of Motive Power and Machinery.



"Progress is making under the contract for the masonry work of the bridge. The chief engineer of the Bridge Co. reports that the foundations of the additional piers will be placed in position during this summer, and the work advanced so as to insure the completion of the bridge by January, 1885.

"The Owensboro & Nashville road, running from Owensboro south, was 36 miles in length when this company acquired its interest therein. Arrangements have been made and funds provided, by the assistance of the Louisville & Nashville Railroad Co., to extend it during the autumn of the present year to Adairville, a distance of 85 miles from Owensboro. This road is operated under separate organization and not as a part of the Louisville & Nashville system. The Louisville & Nashville Railroad Co. owns \$959,400 out of a total issue of capital stock of \$1,156,500.

"The Louisville & Nashville Co. owns \$105,000 of the \$300,000 of the capital stock of the Nashville & Florence Railroad Co., and has advanced on the securities of that company the funds required to extend its road to the Tennessee and Alabama state line, a distance of 56 miles from Columbia, Tenn., on the line of the Louisville & Nashville road. Twenty miles of the road from Columbia south are now in operation, and the other 36 miles are under contract, to be completed by Jan. 1, 1884.

The road in Lawrence county, Tenn., passes through, or adjacent to, a finely timbered country with abundant water-power, giving ample facilities for manufacturing enterprises, and near rich iron ore deposits in practically inexhaustible quantities. It is expected that the net earnings of this road will be sufficient to pay the interest on its bonds, acquired and to be acquired by the Louisville & Nashville Co., and that, in addition, it will make an important feeder to the main line."

The Georgia Railroad earned \$619,713 net, a surplus of \$19,713 over the rental. During the year the joint lessees expended \$120,844 in extending the Athens Branch. The report of this company has already been published.

The Nashville, Chattanooga & St. Louis road had a total surplus of \$376,448 over all charges, from which a dividend of 2 per cent. has been paid since the close of the year. The report of this company has also been published.

FIXED CHARGES.

The fixed charges against income account for the ensuing fiscal year (1883-84), are shown in detail in the following table:

1. On roads owned:	Amount.	Charge.
Consolidated bonds, 7 per cent.....	\$7,070,000	\$494,900
Second mortgage, 7 per cent.....	2,000,000	140,000
Lebanon Branch, 6-7 per cent.....	569,000	34,250
General mortgage, 6 per cent.....	10,367,000	621,680
Memphis, Clarksville & Louisville, 6 per cent.....	2,135,940	129,000
Memphis & Ohio, 7½ per cent.....	3,500,000	252,000
Cecilian Branch, 7 per cent.....	1,010,000	70,000
Henderson Division, 6 per cent.....	1,600,000	96,000
Madisonville Branch debentures, 6 per cent.....	567,400	34,044
Pensacola Division, 6 per cent.....	600,000	36,000
Louis., Cin. & Lex., first-mortgage, 7 per ct.	2,850,000	199,500
" " second-mortgage, 7 p.c.	892,000	62,440
" " mortgage, 6 per cent.....	50,000	3,000
S. E. & St. L., first-mortgage, 6 per cent.....	3,500,000	210,000
" " second-mortgage, 3 per cent.....	3,000,000	90,000
Mobile & Montgomery, old mortgages, 6-8 per cent.....	255,000	16,990
N. O. & Mobile, first-mortgage, 6 per cent.....	5,000,000	300,000
" " second-mortgage, 6 per ct.	1,000,000	60,000
Trust bonds, 6 per cent.....	10,000,000	600,000
Car trust, 6 per cent.....	1,872,000	108,300
Louisville city bonds, 6 per cent.....	850,000	51,000
Total.....	\$58,072,340	\$3,609,114
2. Leased and controlled lines:		
S. & N. Ala., state endorsed, 8 per cent.....	\$ 391,000	\$ 31,280
" " sterling bonds, 6 per cent.....	4,793,740	290,500
" " second mortgage, 6 per cent.....	2,000,000	120,000
Nashville & Decatur, first-mortgage, 7 per cent.....	1,900,000	133,000
Nashville & Decatur, second mortgage, 6 per cent.....	178,000	10,680
Nashville & Decatur, stock, 6 per cent.....	1,855,082	111,300
Cum. & Ohio, S. Div., 7 per cent.....	300,000	21,000
Louisville Ry. Transfer, 8 per cent.....	286,000	22,880
Seima Division, fixed rental.....	52,000	52,000
Shelby R. R.,.....	15,000	15,000
Total leased roads.....	\$11,703,822	\$ 807,640
Total fixed charges for 1883-84.....		4,416,754
Less rentals and interest to be received.....		148,377
Balance to be provided.....		\$4,268,377

To rentals should be added the net earnings of the Cumberland & Ohio, Northern Division, and the Glasgow Railroad, but these amounts are small.

In the above the general interest account is not reckoned, as the balances due this company, carrying interest, more than offset the amounts bearing interest which the company owes.

CONCLUSION.

The report says: "In conclusion it is proper to add that the condition of the property has not only been fully maintained, but improved, while the operating expenses have been decreased. The outlook for the coming year is still more encouraging. The three months which have elapsed since the close of the fiscal year 1882-3 show a gain in gross earnings of over \$400,000. The operating expenses for these three months run about 58½ per cent. If these favorable conditions continue this year's business will show a most gratifying increase in net results.

"The prosperity of our country at large, and especially of the Southern country, through which our lines of road run, increased by many large structures and appliances for the manufacture of iron in its various forms, all of which are in successful operation, necessarily developing the vast and inexhaustible coal and iron deposits of the localities, gives assurance not only of a continuation of the present state of things, but of largely increased profitable results.

"To the energy and capability of the Vice-President and General Manager, and to the other officers and employees of the company, full credit is due for the results which have been reached."

Western Union Telegraph.

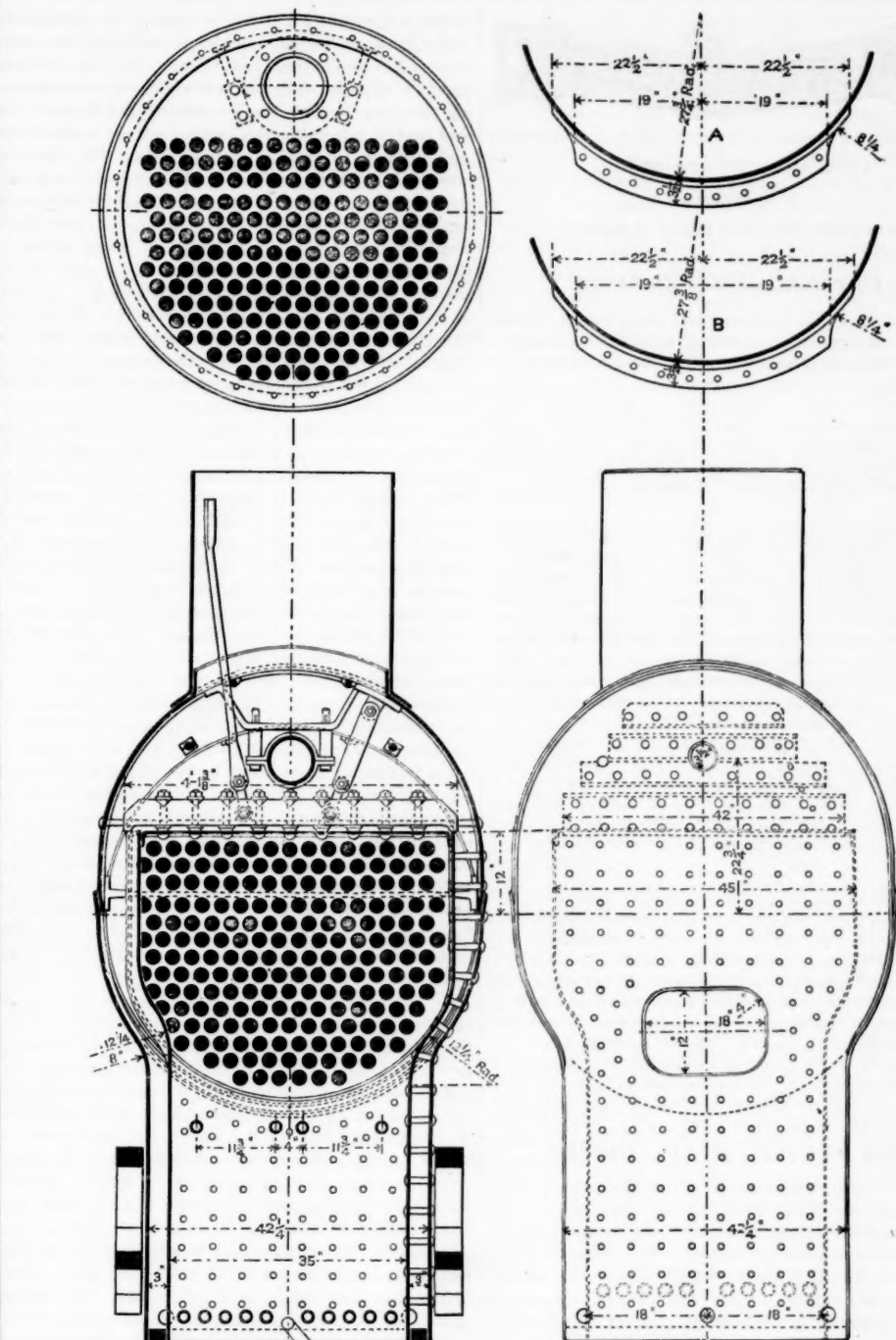
At the close of the last fiscal year, June 30, 1883, this company had in operation 144,294 miles of line, 432,726 miles of wire and 12,917 offices; an increase during the year of 13,234 miles of line, 58,358 miles of wire and 849 offices.

The stock and debt were as follows:

Stock.....	\$80,000,000
Bonds.....	6,224,176
Total.....	\$86,224,176

Of the capital stock \$20,172.50 belongs to and is in the treasury of the company. A small portion of the capital stock is still represented by certificates of indebtedness in the hands of the Union Trust Co., in trust for the parties entitled thereto.

The funded debt consists of \$931,176 bonds of 1900, at 6



Transverse Sections and End View of Boiler (see Plate IV.) for Eight-Wheeled American Locomotive.

per cent. interest; \$3,920,000 bonds of 1900 at 7 per cent., and \$1,373,000 bonds of 1902 at 7 per cent. There is in the sinking fund the sum of \$259,973 not yet used for redemption of bonds, which, when offset against the funded debt, reduces it to \$5,964,204.

The stock is \$554 per mile of line and \$185 per mile of wire; the bonds are \$48 per mile of line and \$14 per mile of wire; a total of \$597 per mile of line and \$199 per mile of wire.

The company owns \$12,550,000 stocks and bonds of leased and absorbed companies, which are not considered marketable. It also holds stocks of telegraph, telephone and cable companies having a present market value of \$10,023,055. Most of these are held in order to control the respective companies.

The earnings and expenses for the year were as follows:

	1882-83.	1881-82.	Increase.	P. c.
Earnings.....	\$19,454,993	\$17,114,166	\$2,340,727	13.7
Expenses.....	11,794,553	9,990,096	1,798,457	18.0
Net earnings.....	\$7,660,350	\$7,118,070	\$542,280	7.6
Per cent. of exps.....	60.62	58.41	2.21	....

The net income for the year was disposed of as follows:

Net earnings as above.....	\$7,660,349.58
Interest.....	\$426,817.82
Sinking funds.....	40,094.00
Dividends, 7 per cent.....	5,199,124.05
	5,606,035.88

Surplus for the year.....	\$1,994,313.70
Surplus, July 1, 1882.....	1,664,240.13
Surplus, July 1, 1883.....	\$3,658,553.83

The total surplus in 17 years has been \$20,543,382, which has been invested in new lines, patents, securities of other companies and other additions to the property.

The number of messages sent, and the average receipt and cost, were as follows, the averages being based upon the entire gross receipts and expenses:

	1882-83.	1881-82.	Increase.	P. c.
Messages.....	40,581,177	38,842,247	1,738,930	4.5
Receipt per message.....	47.94 cts.	44.06 cts.	3.88 cts.	8.8
Cost.....	29.06 "	25.74 "	3.32 "	12.8
Net.....	18.88 "	18.32 "	0.56 "	3.1

The report says: "During the past year the Mutual

Union Telegraph Co. has been absorbed by lease, the rental agreed to be paid being the interest on \$5,000,000 in outstanding bonds, and a sum equal to 1½ per cent. per annum on its capital stock of \$10,000,000. This transaction was followed by the usual vexatious litigations and injunctions, involving extraordinary expenditures of over \$300,000, from being compelled under the restraining order of court to operate that company separately for some months after its absorption. But for these unforeseen elements in the business of the year, the profits for the year would have reached \$8,000,000, as estimated in the last annual report. * * *

"During the period since 1866 the lines have been increased fourfold, with nearly six times as much wire facilities and six times as many offices, handling seven times as many messages, earning three times as much gross revenue, and making threefold as much net profits in one year.

"This has been accomplished on a constantly decreasing scale of tolls on messages—the average rate to the public having been reduced from \$1.04 to 38 cents per message.

"The increase of \$1,798,457.58, being 18 per cent., in the gross expenditures, is because of rentals paid for the American cables, the Cuba cables, and the Gold & Stock Telegraph Co. (all the rentals paid by the company being charged in current expenditures), whilst these rentals were paid for only a small portion of the preceding year.

"The percentage of cost of operating the land lines of the company has been steadily reduced.

"The company is pursuing the policy of steadily reducing the rates to the public, and has extended the rate of 25 cents per message to and from New York city, until that rate covers a larger area than is embraced in the whole of Great Britain.

"The net earnings for the year were over 9 per cent. on the capital stock above fixed charges, and this the management believe will be considerably increased for the current year.

"The vexatious litigation to which the company has been subjected during the last three years is substantially and satisfactorily terminated by the late unanimous decision of the Court of Appeals, sustaining the legality and good faith of the contracts and of the stock dividend in 1881, and of the acts of the directors in respect thereto. It only remains to be seen how far the authors of these malicious proceedings can be made answerable to the company for loss and damage it has thereby sustained."



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EDITORIAL ANNOUNCEMENTS.

Passes.—All persons connected with this paper are forbidden to ask for passes under any circumstances, and we will be thankful to have any act of the kind reported to this office.

Addresses.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

Contributions.—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particulars as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

Advertisements.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

THE CONTEST OF THE GAUGES.

It is now thirteen years since the discussion of the advantages resulting from placing the rails of railroads nearer together than 4 ft. 8½ in. was started by Mr. Fairlie's remarkable paper, "The Gauge for the 'Railways of the Future,'" read before the British Association at its session in 1870. In the discussion which followed, the *Railroad Gazette* was the only technical paper in this country, and, so far as we know, in the world, that denied the premises, disputed the reasoning, and rejected the conclusions which at first seemed to be generally accepted the world over. It will be interesting to look back and see how the question stands after time and experience have cooled the ardor of the contestants on both sides, and when sober facts have exerted their due influence and have shown how much or how little of truth there was in the theories which in these early days were so warmly advocated.

If some of the articles which were published then were reprinted now they would doubtless excite a smile, or rather many smiles. The zeal with which those who advocated the new system stated principles, announced as facts what were only vague conjectures and drew conclusions based on false premises or which were inferences from fallacious reasoning, would be a curious illustration how men may "go wrong" if they are not inclined to see the truth or are not controlled by right reason.

To show how entirely some of the narrow-gauge assumptions and theories were accepted, even by intelligent persons, we recall an interview with a projector of a narrow-gauge railroad in a far Western State. After describing the location of his new road and stating the advantages of its position, he added that he would of course make it a narrow-gauge road, because its first cost would be so much less than that of a standard-gauge line, owing to the fact that the rolling stock could be lighter and therefore the rails and bridges need not be so heavy; and as the rails were so near together, sharper curves and steeper grades could be used, and the cuts and embankments would be narrower, which would result in a great saving in the cost of grading, and finally the cost of operating such a road would be much less, so that there would be a greater margin of profit for a given amount of traffic. These statements were made with a fluency which

would not permit of any interruption or explanation, and with a degree of confidence which showed that the speaker had no idea that there could be any room to question what he so firmly believed. When a breathing place was reached the listener excused himself, and said that he felt compelled to deny all the speaker had said in favor of narrow-gauge roads. The dissenter admitted that heavy rolling stock for a standard-gauge road will weigh and cost more than light rolling stock for a narrow-gauge road, but pointed out that there would be hardly any appreciable difference either in the weight or the cost of locomotives or cars of the same capacity and strength, and with an equal amount of room for the transportation of freight or passengers. The truth of this statement, he said, could easily be verified by writing to the manufacturers and getting their prices for locomotives for a narrow and for the standard gauge, the cylinders, wheels, boilers, etc., to be of the same size in each case. The same thing would prove that cars with bodies, wheels, etc., alike in both cases, will weigh and cost substantially the same. With rolling stock of the same weight the rails must be equally heavy, and, as the weight to be carried determines the bearing surface which the cross-ties must have, and consequently their length, this in turn establishes the width of the embankments and cuts. The weight and loads of rolling stock also determine the strength and weight of bridges; and the width of the car-bodies, and not the gauge of the track, governs the width of through bridges and tunnels. With reference to curves, all the fine-spun theories concerning the diminished resistance on them, when the rails are near together, could be thrown overboard in view of the fact that on the New York elevated roads there are sharper curves than are worked practically on any narrow-gauge railroad in the country, and that more trains are run over these curves than are run over any other railroad in the world. With reference to the loads that could be pulled on grades, it is only necessary to refer to the fact that the law of gravitation acts in the same way on a narrow-gauge road than it does on one of 4 ft. 8½ in.

At the conclusion the narrow-gauge zealot seemed exceedingly sorrowful, and like a man who sees the foundations of a long-cherished faith crumbling away from below him. There are doubtless many persons at the present time who are in the same condition of mind regarding the narrow-gauge system that our Western friend was at the end of the interview referred to, the only difference being that it has taken years to effect the change in them, whereas he had enough mental integrity to see the truth at once, and to be converted from his mistaken belief in the time devoted to the interview. Unfortunately, a comparatively small proportion of mankind are so ready to abandon their errors and prejudices. Two weeks ago an article was published in these columns, the burden of which was to show the disinclination to believe those things which human experience has proved to be true. Much could be written on the disinclination of mankind to abandon its belief in things which are *not true*. The narrow-gauge fallacies and errors have, during the thirteen years since the discussion began, been very extensively disseminated. During that time they have been accepted, and are still believed by large numbers of people, and, notwithstanding the fact that the gauge of many narrow-gauge roads has been changed, it still happens that where a road must be built with little money the projectors often assume that the gauge and the cost bear some close relation to each other. But if some of the assertions made so recklessly when the discussion was begun were repeated at the present time, they would be received with derision. It would sound queerly for any one to say now, as was said in 1870, "that the cost of constructing a railway is nearly as the width of its gauge; in very rough countries the narrow-gauge will be greatly less than the proportion to its width, whilst in flat, level ground the proportion will be more; but, taking the average (excluding rolling stock, fencing, stations and telegraphs), the cost will be found to vary as the gauge;" or that "the dead weight of trains conveying either passengers or goods is in direct proportion to the gauge in which they run; or, in other words, the proportion of non-paying to paying weight is increased exactly as the rails are farther apart, because a ton of materials disposed upon a narrow gauge is stronger as regards its carrying power than the same weight when spread out over a wider basis."

It was probably from the fact that bicycles had not, at that time, come into such general use as they have since, that the fallacy, or rather the absurdity, of this argument was not so apparent then as it would be now; but even then there were those who jeeringly pointed out that if the weight of vehicles is in direct propor-

tion to the distance between their wheels, then bicycles and wheel-barrows would be imponderable, and if the cost of railroads "varies as the gauge" then logically if the rolling stock were arranged to run on a single rail, such a line would cost nothing.

It would be difficult to find a parallel to the narrow-gauge delusion. In discussing the question the advocates of the system made assumptions which were false, their arguments were fallacious, and their conclusions untrue. Nevertheless, the theories were accepted not only by projectors of railroads without engineering knowledge, but educated men with extensive experience in that profession advocated the doctrines, and the two most prominent English engineering papers gave their support to the new system. From whatever point of view it is regarded, it was one of the most remarkable delusions of modern times. Probably it never would have met with the general acceptance it did, had it not been that so many projectors of new roads found it to their interest to disseminate the doctrines, and, as was repeatedly observed, it was easier to raise money for a new railroad by preaching narrow-gauge, than it was by adhering to the standard-gauge system. The delusion has however about expended itself and hereafter there will probably be more narrow-gauge roads changed to the standard distance between the rails than there will be new narrow-gauge lines built. The delusion has been a costly one in many ways, and still has many adherents, but, although some two thousand miles of narrow-gauge road were built last year, the influence of this remarkable delusion has probably nearly expended itself.

THE LOUISVILLE & NASHVILLE REPORT.

For two or three years before 1882 the Louisville & Nashville Railroad was passing through a transition period of growth and development which made any comparison of its operations from year to year almost impossible. Two years ago, however, it had almost reached the end of that period, and its mileage and the character of its property were so nearly settled that the annual statements given elsewhere for the fiscal year lately closed may fairly be compared with those of the one preceding it.

In 1879 the company's lines extended from Louisville to Montgomery on the south and Memphis on the west; in the two following years they were extended to Mobile, Pensacola and New Orleans on the Gulf, while the original Ohio River terminus at Louisville was supplemented by extensions to Cincinnati and St. Louis, and even a Chicago line was talked of, although circumstances prevented the realization. In the mean-time it had increased the mileage of branches which it already possessed in Kentucky and Tennessee, and had acquired control of roads which had heretofore been its rivals, becoming the most prominent company south of the Ohio.

The growth of the road, which was thus chiefly made in the two years ending in 1881, is illustrated by the following table:

	Miles owned.	Miles worked.	Av. miles worked.
1878-79.....	651	973	973
1879-80.....	880	1,840	1,252
1880-81.....	1,438	1,872	1,845
1881-82.....	1,624	2,028	1,970
1882-83.....	1,696	2,065	2,032

In this table the miles owned give the mileage owned either in fee or by ownership of stock at the close of the year; the miles worked, the total road operated at the same time, and the average miles worked, the average for the entire fiscal year.

During the same time the length of the lines controlled but not worked directly increased from a few miles in 1879 to 508 in 1880; 1,162 miles in 1881; 1,203 miles in 1882, and 1,440 in 1883. The system under the direction of the company has thus grown from 980 miles in 1879 to 3,500 in the present year; it has been multiplied nearly four times.

A very large part of this growth, however, has not been made by the construction of new lines, but by the purchase or lease of lines already built, some of them nearly as old as the Louisville & Nashville itself. The company built some new branches, but its chief extensions were made by taking advantage of a period of reorganization when an unusual number of railroads were in the market openly or were in the hands of bondholders who had taken them as a last resource and were very willing to dispose of them. In this way the lines from Montgomery to Mobile and New Orleans, from Nashville to St. Louis and from Louisville to Cincinnati were secured. The new road built has been chiefly in extension of branches and in the making and completing of connections.

Naturally, all this growth has not been accomplished without a corresponding increase of liabilities. For several years prior to 1880 the capital account had shown but little change. During 1879-80 the bonded

debt increased from \$17,397,000 to \$30,978,000, and for the four fiscal years ending with 1883 the stock and bonds have been as follows at the close of each year:

	Stock.	Bonds.	Cost of property.
June 30, 1880.....	\$9,059,361	\$30,978,520	\$44,074,958
" " 1881.....	18,130,913	46,951,840	65,940,425
" " 1882.....	18,133,513	58,087,778	74,060,575
" " 1883.....	30,000,000	57,903,230	88,135,552

In the cost of property is included not only the cost of road owned, but also that of the stocks and bonds of the leased and controlled roads. For the statement of 1883 there should properly be deducted from the stock \$5,000,000 which has not been issued, and the same sum should be taken from the cost of property, as the stock held in the treasury appears there also with other securities owned.

This shows that in four years the stock has been increased to three times its former amount; the bonded debt has been very nearly doubled, and the cost of property almost exactly doubled. The increase of liabilities, however, has been less than the increase in the mileage owned. Up to the present year the company has apparently followed the policy of increasing the funded debt rather than the stock, as additional property has been purchased. It may be noted, however, that part of the increase in funded debt has come from the assumption of the debt of roads purchased, and not all of it from the issue of new bonds.

The growth of traffic has kept pace very nearly with the increase in mileage, having been for the four years as follows:

	Passenger-miles.	Ton-miles.
1879-80.....	48,389,396	319,690,197
1880-81.....	82,044,283	492,933,791
1881-82.....	111,137,575	596,639,434
1882-83.....	129,272,559	664,139,416

Part of this growth has been due to the general improvement of business and the growth of some of the country along the company's lines. But a large part of the territory which they reach does not grow fast, and very much of the increase has been due to the additional road worked. And here again it must be remembered that but little of the additional mileage has been new road, so that the increased business has corresponded more nearly to the increased mileage than could be expected on a road like the Milwaukee & St. Paul, for instance, whose growth is into a new country. Most of the old lines acquired have had a traffic very much lighter than the Louisville & Nashville main line, but generally much heavier than that of the older branches, and probably not much below the average of all its lines.

The course of earnings for the last four years has been as follows:

	Gross earnings.	Net earnings.	Surplus.
1879-80.....	\$7,435,843	\$3,297,310	\$1,046,159
1880-81.....	10,911,650	4,198,510	1,573,022
1881-82.....	11,877,745	4,538,375	678,908
1882-83.....	13,234,915	5,135,320	722,609

Here the surplus is the amount remaining after the payment of the fixed charges—taxes (which this company does not report in its expenses), interest and rentals—and which may fairly be applied to dividends or improvements of the property. Here will be noted the increasing proportion of earnings absorbed by the increasing debt, the full effect of which first began to be felt in 1881-82, although a large part of the increase was made the previous year.

The dividends paid from this surplus were 8 per cent. in 1879-80; 6 per cent. in 1880-81, and 3 per cent. in 1881-82. Last year no dividends were paid, all of the surplus except \$75,153 having been absorbed in payments to the sinking funds and improvements of the property.

Last year was to the country served by the road a fairly prosperous one, and a large increase in the earnings was to be expected, without considering any gain that might come to the road from new lines or connections. This expectation was realized and the road not only earned its fixed charges but a surplus which was equal to 2½ per cent. upon the increased stock, although it was otherwise applied.

For the three months of the fiscal year for which gross earnings have thus far been reported they have shown a large increase, but it is possible that it may not be fully kept up through the year. It is now certain that the cotton crop will be less than that of last year, and to that extent there will be a falling off in business. The Louisville & Nashville, however, is not wholly, or even to any very great extent a cotton road, and this probable falling off may be made up in other ways. The most rapidly growing country on its line, the mineral region of North Alabama, will probably furnish some increase of traffic, although its growth is attracting new lines, and there will be increased competition for business there, which, however, will not be fully felt until another year. The working expenses should not be increased, as the road is in fair condition and has largely increased its mileage of steel rails. No considerable gain from new lines is to be expected, as the only

extension of importance made last year—the extension of the Knoxville Branch to an East Tennessee connection—is not likely to develop a large traffic. The road may be expected, however, to equal the net earnings of last year, if it does not increase them, and, as the fixed charges will be very nearly the same as for last year, it will doubtless make as large a surplus. The company is, on the whole, in a better position than it was a year ago, and can well hold its own with a year of only moderate prosperity, but a resumption of dividends can hardly be looked for this year.

CASES OF PERSONAL INJURY.

Recent volumes of New York law reports bring several cases of lawsuits for personal injuries, in which the circumstances or principle involved are somewhat novel. It is not often that two ends of one train come in collision. Some of the roads boast of "horse-shoes" where the engineer can hand a cigar to the rear brakeman as the train curls around the bend; but actual collision between cars of one train would ordinarily be thought unlikely to happen. One did happen, near Towanda, in Pennsylvania, and in a very natural and simple way. The railroad, at this place, leaves the station upon a sharp curve ending at a river crossed by a bridge 1,500 ft. long. The additional friction on the curve requires an additional engine behind the train, to get it well under way. On the day in question, a moment or two after this extra engine had done its work of imparting a good rate of speed to the long and laboring train, and had drawn off upon its switch, a draw-head between two of the cars gave way, and the train parted, the forward part running onward under the draft of the locomotive in front; and two or three rear cars following, by the lessening impulse and momentum they had received from the two engines. The parting of the cars pulled and broke the bell-cord, first ringing the engine bell. The engineer heard this automatic signal to stop, but knew nothing of its cause, and thought it unwise to stop while upon the bridge; he therefore allowed the train, as he supposed, but in fact only his end of it, to continue on its way at full speed till solid ground was reached, when it was stopped as summarily as possible. Meantime the rear and "unattached" cars had been somewhat slackening their speed, and thus quite a space intervened between them and the forward portion; and they now came rushing up, the forward platform crashing into the rear platform of the hindmost of those cars which had clung to the engine. Through what absence or carelessness of brakemen on the cars which were running loose this could happen, the report of the case does not state. It did happen, and a passenger who had been standing on one of the platforms involved in the crash was hurt and sued for damages.

There was no proof of any special negligence in the management of the train and no reason assigned why the passenger hurt should have been on the platform instead of seated in the car, except that he "wanted to see" the country. The judges said that the jury must decide, as practical, common-sense men, whether the company was in fault for the parting of the train; but as the accident was caused by a draw-head pulling out, and draw-heads of the proper strength and well made do not pull out, it was reasonable to suppose that this particular one was insufficient or defective. They must also decide whether the passenger contributed to his injury by riding on the platform; but it is not unlawful, nor necessarily negligent, for a person to ride on the platform unless some rule of the company which has been brought to his notice, or some statute, forbids it. The jury—being perhaps travelers rather than railroad men, and more interested in liberties and safety of passengers than in convenient ways of managing trains—decided both questions in favor of the passenger.

The increasing number and complexity of the trains on the busier roads give rise to new dangers and novel questions in the duties of the "train dispatcher." The story of a casualty on a single-track branch of the New York Central is too long and complicated to be fully reproduced here, but those interested in the subject will find the decision (Sheehan v. New York Central, etc., R. R. Co., 91 N. Y., 332) worthy of perusal. The leading facts were, that a confusing number of trains were running, some of them "regulars," others "wild cats," or trains sent back and forth under special orders, having no places on the time-table, but provided for and moving by telegraphic orders from headquarters. At the time of the disaster, the Superintendent desired to send a "wild cat" train over the road within the time of regular train No. 50, but knew that if No. 50 were delayed for the "wild cat," its later running would interfere with the time of the two regulars next due,

Nos. 61 and 337. He therefore telegraphed to the officials at the proper station: "Wild cat to Cayuga, regardless of No. 50. Hold No. 50 for orders." In making known these orders, the operator at the station committed the blunder of telling the conductor and engineer of No. 50 that they were to wait for No. 61 (which was the next train to come, and was the only one, as the operator seems to have thought, with whose time their train could interfere), instead of that they were to wait for orders. They waited for No. 61, and when that train had passed they started their train (No. 50) on her trip, and collided with No. 337, whereby the fireman on No. 337 was fatally injured.

In the suit for damages the Court held the company responsible, on account of the failure to make known to the conductor and engineer of the train No. 50 how they should wait or run so as to avoid collision with No. 337. If the company chose to run a wild-cat train on No. 337's time, the men employed on that train had the right to be protected, as far as protection could be secured by the giving of adequate directions to those employed on other trains which might interfere with theirs. The Superintendent sent no instructions to the persons concerned. He sent correct instructions to the telegraph operator, but left them to be communicated by word of mouth from the operator to the conductor and engineer concerned; and hence took the risk that they might be repeated untruly—as they were. It was not a case, the Court said, for applying the doctrine as to one servant injured by neglect of duty by a fellow servant; but a case in which the management of the road failed in its general duty of prescribing safe and adequate rules for the running of the trains. As the trains in question were not to run by the time-table, it became the duty of the direction to instruct the conductors and engineers of Nos. 50 and 337 how they should run to avoid colliding, and this duty was not performed.

Several very recent collisions recounted in the public journals have brought to notice the duty and responsibility of the conductor of a train stopped on the track to send a brakeman over the track to the rear, to flag any train which may be approaching. The liability of the company for its conductor's discharge of this duty has lately been discussed. Late one night a track was necessarily occupied by a freight train, and the conductor sent one of his brakemen back to warn any incoming train. The man dispatched was young and inexperienced, an "extra hand," or one of those who wait about the large stations, accepting odd jobs when regular employes are sick or absent, in hopes of appointment to regular work when a vacancy occurs. The rules of the company required him to place torpedoes on the track, as well as wave a red lantern, but he knew nothing about torpedoes and carried only the light. His signals, such as they were, proved insufficient, an incoming passenger train crashed into the freight train, and the engineer on the passenger train was killed.

In the suit for damages which followed, there was no serious dispute, but that the brakeman was incompetent for the task assigned to him. But the company's counsel urged that the conductor was a competent, faithful man, and had been furnished by the management with proper instructions to guide him in the matter of giving warnings to trains when necessary; and they claimed the law to be that when the company has furnished a good road and apparatus, prescribed judicious rules, and selected competent, trustworthy employes, it has discharged its duty towards employes; it is not liable (to an engineer) for the manner in which a conductor, generally faithful and skillful, performs the duty of selecting a brakeman for a particular service. But the Court does not embrace the selection of servants. A company is bound to all its employes that all persons in its employ are competent and trustworthy for their several posts. It cannot cast off this responsibility by employing a good superintendent or conductor, leaving the selection of inferior hands to him, and disclaiming liability for his error of judgment in a choice made.

Cases in which a company is sued for an actual, willful misconduct of an employe towards a passenger rest on somewhat different principles from casualties caused by negligence. In one lately reported instance a lad jumped upon a street car, intending, as he afterwards declared, to pay fare and ride as a passenger; but the conductor seems to have assumed that he meant to "steal a ride," and without giving him an opportunity to pay, threw him off, by which he was badly hurt. In another instance the conductor and driver of a "bob-tailed" car got into a quarrel with a passenger and beat him severely with his whip. In cases like these the companies have contended that they ought not to be liable, because willful misconduct

of this kind is not within the scope of a conductor's employment and duty. He is not authorized and cannot possibly suppose himself authorized, as agent of the company, to abuse and beat the passengers. Now an employer (the argument is) ought not to be liable except for the manner in which an employé does what he is hired to do. But the courts say that carriers of passengers are liable for the manner in which passengers are carried. They undertake to carry each passenger safely; and although they are not liable for every injury or danger, they are bound to protect those who trust to their conveyances from abuse and misconduct by their servants. They are even bound to use all reasonable efforts and precautions to prevent one passenger from assaulting his fellow-passengers; still more must they answer when the comfort of the passenger is destroyed or his security endangered by the willful misconduct of those whom they have selected to care for the comfort and safety of passengers while on their trip. It would be very absurd, says one judge, that a stage company should be held liable if the driver should drive unskillfully, upset the coach, and thus injure the passengers by negligence, but not liable if he should deliberately stop the coach and rob them; or that a sleeping-car company should be charged if the porter should fall asleep and allow thieves to enter and steal, but free of liability if the porter should himself turn pickpocket and rifle the pockets of the slumbering passengers. By a series of decisions of this kind the law is becoming quite established that railroad companies, in common with other carriers, are liable for any willful injuries inflicted on the passengers by an employé.

Passenger Fares in Europe.

The passenger rates in the different European countries have been collected and compared by the Hamburg Correspondent, and reduced to the German standards of money and distance, which below we have reduced to our standards. The Correspondent affirms it has obtained all the figures from official sources. In cents per mile these rates are:

	1.	2.	3.	4.
North Germany.....	3.12	2.34	1.56	0.78
South Germany.....	3.12	2.08	1.52	....
Austria-Hungary.....	3.71	2.73	1.82	0.78 to 1.04
Belgium.....	2.34	1.76	1.17	....
Holland.....	3.31	2.65	1.66	....
Denmark.....	3.31	2.34	1.46	....
Switzerland.....	3.12 to 3.90	2.34 to 2.73	1.56 to 2.08	....
Sweden.....	3.07	2.30	1.50	....
Norway.....	0.94 to 2.34	0.69 to 2.37	0.44	....
Great Britain.....	3.12 to 5.07	2.78 to 3.57	1.87 to 2.00	....
France.....	3.90	2.89	2.11	....
Italy.....	3.52	2.47	1.69	....
Spain.....	4.10	3.12	1.85	....
Portugal.....	3.52	2.63	1.95	....
Roumania.....	7.04	2.81	1.87	....
Russia.....	2.47 to 3.12	1.76 to 2.34	1.07 to 1.17	....
Turkey.....	5.66	4.98	2.73	....
Greece.....	2.82	1.69	1.36	....

We give these with the caution that "official sources" are sometimes deceptive. The authorized rates in distant countries may be taken for actual rates, when in fact the actual rates are very different. Here the German and Austrian rates are those for single tickets in one direction, and the roads in these countries issue vast numbers of round-trip, subscription, tourist and other tickets at reduced rates, as is the case also in England, and doubtless in some other countries. An enormous proportion of the whole passenger traffic of Turkey is over a few miles of a railroad from Constantinople to a suburb, and in view of the poverty of the people of Constantinople, it is very improbable that these passengers pay as much as 2.73 cents per mile, which is given as the third-class rate in Turkey. If a complete table were to be made for this country we should have to give the 5 cent "commission" fare on the New York Elevated-road, from the Battery to the Harlem, at 157th street, 11 miles, as a first-class fare, which is 0.45 cent per mile. Then there are rates in the Rocky Mountains of 10 cents per mile—at least there were recently. Much more significant are average rates, but even these do not make a good basis for comparison with this country, where there is so very little second class travel, and no provision for it on most roads.

The average rates actually collected on all the railroads of the German Railroad Union in 1881 were:

	1.	2.	3.	4.	Reduced	All.
Germany.....	3.295	2.176	1.291	0.835	0.587	1.361
Austria-Hungary.....	4.060	2.726	1.622	1.108	0.650	1.751
Other roads.....	3.000	2.332	1.373	0.823	0.827	1.673
Average of all.....	3.389	2.297	1.137	0.870	0.644	1.470

Thus the average receipt per passenger actually carried on this great system of roads was 1.47 cent per mile, though for first-class passengers it was 3.39 cents on the average, and 3 cents where it was lowest on the Union roads in Belgium and the Netherlands.

We see here that the average first-class rates on the German roads in the Railroad Union, which includes very nearly the whole, is a little more than the Hamburg Correspondent makes it for either North or South Germany, but the third-class is less. In Austria-Hungary the average rates actually collected for all class, except the fourth, are higher than those it gives.

A direct comparison of fares with this country has little significance, because probably 90 or 95 per cent. of all the tickets sold here are first-class, or are so called, though a considerable portion, as on many local roads and some exten-

sive sections of country (but usually where the travel is light) the "first-class" accommodations here are hardly equal to the second-class in Germany. On the whole, as something like three-fourths of the European travel is third-class, or lower, it will be universally admitted, we suppose, that the average accommodations here are far above the European average, and even decidedly above the European second-class. If we were to average European fourth-class without reference to the relative amount of travel in the different countries, we might also claim, perhaps, that our average (there being very little below our first-class) is equal to the European first-class. But the luxurious first-class accommodations in Europe are in the countries and on the lines which have most of this travel, so that the countries where first-class accommodations are inferior do not bring down the average much.

Bearing in mind the essential unlikeliness of the things compared, we may still learn something by putting by the side of the above European rates per passenger per mile the average in this country, which the census of 1880 showed to be 2.33 cents per mile for the whole travel—58 per cent. more than the average of the roads in the German Railroad Union. How it compares with the average in other parts of Europe cannot be ascertained from the figures given by the Hamburg Correspondent.

Record of New Railroad Construction.

This number of the Railroad Gazette contains information of the laying of track on new railroads as follows:

Atlantic & Danville.—Extended westward to Spring Grove, Va., 1 mile. Gauge, 3 ft.

Burlington & Northwestern.—Extended from Martinsburg, Ia., west 10 miles. Gauge, 3 ft.

Chicago, Milwaukee & St. Paul.—The James River Branch is extended from Letcher, Dak., north to Wolsey, 34 miles. The Southern Minnesota Division is extended from Howard, Dak., west to Forestburg, 28 miles.

Chicago, St. Louis & Western.—Track laid from Chicago southwest to Willow Springs, Ill., 20 miles.

Cleveland, Delphos & St. Louis.—Extended from Mt. Blanchard, O., east to Carey, 10½ miles. Gauge, 3 ft.

Illinois Central.—Track laid on the Canton, Aberdeen & Nashville Branch from Kosciusko, Miss., northeast 38 miles.

Marquette, Houghton & Ontonagon.—Extended from L'Anse, Mich., northward to Houghton, 31 miles.

Maryland Central.—Extended from Belair, Md., northward to Forest Hill, 4 miles. Gauge, 3 ft.

Michigan & Ohio.—Extended from Marshall, Mich., east by south to Addison, 45 miles. Track also laid from near Toledo northwest to Franklin, Mich., 30 miles.

Missouri Pacific.—The Lebanon Branch is extended from Cooper, Mo., south to Bagnell, 6 miles.

New York, West Shore & Buffalo.—Extended eastward to Churchville, N. Y., 10 miles.

Northern Pacific.—The Jamestown & Northern Branch is extended from Carrington, Dak., north to New Rockford, 16 miles. The Palouse Branch is extended east to Endicott, Wash., 21 miles.

St. Paul & Duluth.—Track laid on the Grantsburg Branch from Rush City, Minn., east to the St. Croix River, 7 miles.

Sanborn, Cooperstown & Turtle Mountain.—Completed from Sanborn, Dak., north to Cooperstown, 37 miles.

This is a total of 348½ miles of new railroad, making 4,629 miles thus far this year. The total new track reported in our columns to the corresponding date for 12 years past has been as follows:

	Miles.		Miles.
1883.....	4,629	1877.....	1,548
1882.....	8,081	1876.....	1,740
1881.....	5,340	1875.....	903
1880.....	4,195	1874.....	1,180
1879.....	2,507	1873.....	2,897
1878.....	1,422	1872.....	5,147

The statements include main track only, no account being taken of second tracks or other additional tracks or sidings.

The mileage reported for the week is the heaviest statement we have had this year. It includes several long lines on which no track has previously been noted.

THE GRADE CROSSING ACCIDENT in Philadelphia last Saturday, in which a street car was struck by a passing train and three men were killed and others severely hurt, has attracted a good deal of attention and much comment from the daily papers, but it is, after all, only an exaggerated case of what is going on all over the country ever day. There is not a day in which some one of our exchanges does not contain a note of some similar accident, and by their very frequency they escape public attention to a great extent. A horse is killed, a wagon broken, a driver hurt, perhaps killed; that is all, and little or nothing is said about it. In this case the train happened to strike a public vehicle containing a number of passengers, and that is the only point about it which is at all unusual. If statistics at all approaching accuracy could be collected in this class of accidents, even railroad men, who are somewhat familiar with them, would be startled at their large number, and at the many deaths and personal injuries resulting from there. It is true that a large portion of them result from carelessness; and the street-car driver who, if the reports are correct, was inside the car quarreling with a passenger, leaving a boy to drive the car over a dangerous crossing, is nearly kin to the farmer or hired man who drives his wagon upon the track, secure in the careless belief that no train will come while he is crossing, as none has ever come before. The whole subject of highway grade-crossings, and the prevention of accidents at them, deserves more attention than it has yet received, and the Philadelphia

accident may do good by calling public attention to the matter.

Probably the best protection at a highway grade-crossing is a good flagman. At one of the most dangerous street crossings in the country—that of the Delaware, Lackawanna & Western over Broad street in Newark, N. J., where the trains are very numerous and the street traffic very large, while buildings on each side shut off all view of an approaching train—there are no gates of any kind and no protection except two vigilant watchmen, and yet no accident has taken place for years. But there are a great number of highway crossings at which it would be hardly possible to keep a flagman, and automatic signals have not been adopted very widely as yet. Their use might be extended with great benefit, for while signals of this kind cannot prevent a man from driving on the track if he is determined to do so, they can be and are so arranged as to excite the attention of the most careless driver.

The Massachusetts Railroad Commission is this year charged by the Legislature with the duty of investigating this question, and the Connecticut Commission has also begun a similar work. If it is taken up as it should be, their reports will be of interest and value both to railroad men and the general public, and the investigation should be followed up in other states also.

THE CONSOLIDATION OF THE NEW HAMPSHIRE ROADS seems to be suspended for the present, although the Colby Railroad bill, which made it legally possible, has become a law. At the annual meetings of the companies last summer the directors were authorized to make the necessary agreements, but nothing has yet been done, unless there has been some informal negotiation. The trouble will probably be over the valuation of the respective properties. The Concord Railroad Company has a very valuable property, which is but partly represented by its stock; for many years the surplus over its 10 per cent. dividends has been spent in improving the road, buying interests in leased and connecting lines and making other additions to the property, while its stock has not been increased and it has no funded debt. The Concord road is a much more valuable property than any of the others; it is not only the trunk over which all the business of the upper roads must pass, but it also reaches by its main line and branches a number of thriving manufacturing towns and villages which have a large traffic.

On the other hand, the Boston, Concord & Montreal has a considerable funded debt and has never been able to pay dividends on its common stock, although the preferred has received 6 per cent. for several years. The Northern, while it has no funded debt, has a traffic largely made up of through freight at very low rates, and has never been able to pay more than 5 or 6 per cent. The Concord & Claremont has been barely able to maintain itself and is merely a dependency of the Northern. At what rate these roads shall be put into the consolidated company, if one is formed, will be the question for some sharp discussion.

The Boston, Concord & Montreal and the Northern companies some years ago bought a large part of the Concord stock and still hold it. But, while their interest has enabled them to control the election of directors of the company and to shape its policy generally, the outside stockholders are numerous and influential enough to make trouble should an agreement be made which seems to them unfair. Very possibly they might be able to defeat it altogether, and at any rate they must be considered in the matter.

The consolidated company would operate 480 miles of road, and the total liabilities of the four companies as they now stand amount to \$6,779,300 stock and \$3,566,600 bonds; if the Manchester & Lawrence be included also, 26 miles of road and \$1,000,000 stock should be added. This would not make a very large corporation, as railroad companies are now—a small one rather, as compared with the Northwestern, the Milwaukee & St. Paul, the Union Pacific and a dozen others, or even with the Boston & Albany or the Old Colony in New England. It would seem as if the union would be in the interest of the owners of the property, for certainly 500 miles of road should be worked more economically by a single management than by five separate corporations, each with its staff of officers. The roads, too, have many interests in common, which could be best helped by a single management, and in the end the public and the state would probably be better served in many ways, as has frequently happened in similar cases.

CHICAGO, BURLINGTON & QUINCY EARNINGS for August, which have just been reported, show a very large increase in amount over the same month of last year. The following is a comparison for the two years:

	1883.	1882.	Increase.	P. c.
Earnings.....	\$2,495,123	\$2,086,857	\$408,266	19.6
Expenses.....	1,198,527	976,268	222,259	22.8

Net earnings.....\$1,296,596 \$1,110,591 \$186,005 16.7

This is a very considerable gain, and was not due to the increase in mileage worked, which is this year very small—only 2 per cent. The earnings this year were \$772 per mile gross and \$401 net, while a year ago the gross earnings were \$658 and the net earnings \$351 per mile, the proportionate increase being very nearly the same as in the total earnings. The increase in expenses was greater in proportion than that in earnings, and it cost this year 48 per cent. of the gross earnings to work the road, while last year it was done for 60½ per cent.

From July to August of this year the road made a great increase, the August gross earnings being \$670,418, or 88 per cent. more than those of July, while the net earnings were \$511,641, or 65 per cent. greater. A gain in August

was to be expected, as July is usually one of the lighter months of the year on this road. Last year this gain was \$461,851, or 28½ per cent. in gross earnings, while in net earnings it was \$359,405, or 48 per cent. Both gross and net earnings for August were much above the average for the year so far.

For the eight months ending with August the earnings and expenses for the two years were :

	1883.	1882.	Increase.	P. c
Earnings.....	\$15,725,032	\$12,867,479	\$2,857,553	22.2
Expenses.....	8,261,935	7,115,189	1,146,746	16.1
Net earnings....	\$7,463,097	\$5,752,290	\$1,710,807	29.7

The August increase makes the gain in gross earnings very nearly the same in proportion for the eight months as it was for the seven months ending with July. The increase in expenses for the month, however, was large enough to make the proportionate increase for the eight months greater than for the seven, while the gain in net earnings for the year, which at the end of July was 32.8 per cent., falls now to 29.7 per cent. This is still a large gain, however, especially as it was made with very little new road, and with two of three unfavorable months to start on early in the year. The proportion of working expenses to gross earnings is still smaller this year than last, having been for the eight months 52½ per cent. in 1883 and 52¼ in 1882.

With August the road has begun to feel the effects of the new crops along the line, and the present reports from them indicate that the gain thus begun will be fairly maintained for the remainder of the year. The interest, rentals, sinking payments and 8 per cent. dividends last year were \$9,697,000; to this about \$1,100,000 will be added this year for new stock and bonds issued, so that the net earnings for two-thirds of the year amount to very nearly two-thirds of the amount of these charges, without making any allowance for miscellaneous receipts and land payments, which last year added \$1,782,324 to the net income. The increase in net earnings this year so far is \$600,000 more than the addition to charges and dividends for the whole year.

THE CENTRAL RAILROAD COMPANY OF GEORGIA has entered into a contract with the Western & Atlantic Company which for seven years, or until the end of the Western & Atlantic lease, will unite the two companies in a very close alliance, although each will retain its own management. Under this contract the Western & Atlantic will have the right to make rates to all points on the Central lines, while the Central will have a similar right to make rates from any points on its lines over the Western & Atlantic. Each company agrees, moreover, to give preference to the other in all contracts and consignments, and generally to assist the other to business wherever possible. The managements of the two companies are also to act together wherever their joint interests are concerned, although each will retain its own organization and revenues. The contract, it is stated, is so carefully drawn and of such a binding nature, that no change of control will change the relations of the roads.

This contract, as Senator Brown, who is President of the Western & Atlantic Company, states in a published interview, is intended "to meet the combinations of Northern syndicates, which threaten to swallow up all the roads of the South." The syndicates which he especially refers to are, no doubt, the East Tennessee and the Richmond & Danville combinations, whose lines now surround Georgia pretty well and extend also into the centre of that State.

The Central Railroad Company now owns or controls nearly all the lines in Central and Southern Georgia, the exceptions being the East Tennessee line to Brunswick, which is not very well placed, and the Savannah, Florida & Western, which depends rather upon its Florida business, and does not actively compete with the Central. Its lines also extend well into Eastern Alabama, and it covers some very good territory. But it has had heretofore no control of or interest in the lines to the northward from Atlanta, over which a large part of its business must pass. By this contract it secures the line to Chattanooga, where the Louisville & Nashville and the Cincinnati Southern supply connections to the North and West which are likely to be always open, no matter what war may arise among the Southern roads.

On the other hand, the Western & Atlantic secures to itself its Southern connections, and also secures a large amount of business which might be diverted to the East Tennessee's new line between Chattanooga and Atlanta. Both companies have thus apparently strengthened themselves by the combination.

This contract is, doubtless, the outcome of the proposition which was brought forward a few months ago for the sale of the Western & Atlantic by the state to the Central Company. That proposal was given up because there was not time this year to bring it before the Georgia Legislature, or at any rate to get the necessary bill through that body. It may not be brought forward next year, but will probably come up before the expiration of the lease.

THE NEW SYSTEM OF STANDARD TIME, which is to be finally passed upon at the General Time Convention in Chicago this week, and the Southern Time Convention in New York next week, establishes, as has already been explained, five standard times for North America. These standards are exactly one hour apart, being respectively the times of the meridians of 60, 75, 90, 105 and 120 degrees west of Greenwich. The time of 60 degrees will affect very few roads in the United States, being that of the Intercolonial and the roads in the Maritime Provinces and Eastern Maine. In general terms the 75th meridian time will include New England, New York and all the Atlantic states; 90th meridian time will extend from Buffalo and Pitts-

burgh to the Missouri River, Kansas, Arkansas and Central Texas; 105th meridian time will be the standard from the Missouri River to Nevada, while the 120th meridian will be the standard for California, Nevada, Oregon and Washington.

The first roads to adopt the new standard are those composing the through line between Boston and Montreal by way of Concord. All the roads began to run by 75th meridian time at noon on Oct. 7, except the Boston & Lowell, which will not adopt it until Oct. 14. This time is 16 minutes slower than the Boston time, which has heretofore been the standard for those roads, 4 minutes slower than New York time, and almost exactly the same as Philadelphia local time. The change having been made on an important system of connecting lines in New England will probably be soon followed by many other companies, who are now waiting for the action of the Time Convention.

It will be understood that the line of division between the several standard times will not be a straight geographical one, as, for many reasons, the changes from one time to another will be made at the terminal points of roads or divisions. But all the changes of time will be an even hour, wherever they are made to occur, the time being an hour slower going westward and an hour faster going eastward.

This change, if generally adopted, as it is expected that it will be, will doubtless cause some inconveniences, as all such changes do. But there is no doubt that these drawbacks will be very much less than the great gain which will result from the substitution of a few intelligible and easily remembered standards for the numerous arbitrarily chosen, puzzling and often overlapping times now in use on our railroads.

SEPTEMBER EARNINGS are reported elsewhere by 39 companies, one of them, however, giving the figures for this year only. The other 38 had 38,678 miles of road, against 34,425 last year, and the total earnings were \$20,983,324 now and \$18,755,922 a year ago, showing a gain of 12 per cent. in earnings, with an increase of 13 per cent. in mileage. The average earnings per mile were \$542 this year and \$515 last, a decrease of less than 1 per cent. Five roads show losses varying from 1 to 16 per cent., the smallest being on the Burlington, Cedar Rapids & Northern and the largest on the International & Great Northern. The heaviest increases are of 84½ per cent. on the Canadian Pacific and 56½ on the Northern Pacific, both roads having also a great increase in mileage. Of the roads having no change, or but a small one, in mileage, the Central Branch gained 45 per cent.; the Memphis & Charleston, 26½; the Louisville & Nashville, 17½, and the Mobile & Ohio, 16½. The southern and southwestern roads make the best showing, all of them gaining considerably except the International & Great Northern, whose earnings have been falling off or gaining nothing for several months. The northwestern roads do not show large increases, with the exception of the Milwaukee & St. Paul. Only one eastern company—the Long Island—has yet reported for the month.

For the nine months ending with September we have reports from 36 companies, whose earnings this year were \$144,082,869 and last year \$127,550,380, while their mileage was 38,329 miles this year and 33,401 in 1882, showing a total increase of 13 per cent. in earnings, and of 15 per cent. in mileage. The average earnings per mile this year were \$3,759 against \$3,819 in 1882, a decrease of nearly 2 per cent. Five roads only out of 36 show decreases, and two of these were less than 1 per cent. The only considerable loss was 9½ per cent. on the Peoria, Decatur & Evansville. Notable gains were 124 per cent. on the Canadian Pacific; 66½ on the Central Branch; 42 on the Little Rock, Mississippi River & Texas; 35 on the Northern Pacific; 29 on the Texas & Pacific, and 28 on the East Tennessee, Virginia & Georgia. The only Chicago road showing a large increase is the Milwaukee & St. Paul, with 17½ per cent. The largest gains, without a great increase in mileage, are on the Missouri Pacific lines in the Southwest, and on the Southern roads, all of which have larger earnings this year than last.

THE NORTHERN PACIFIC FLOATING DEBT is to be funded by an issue of \$20,000,000 second mortgage-bonds, provided the preferred stockholders agree, of which there is little doubt. The directors state that the floating debt is now \$9,459,921, and that \$5,500,000 more will be required to complete the work still to be finished (tunnels, etc.) and to pay for equipment under contract. To provide the \$15,000,000 thus needed, the company will sell \$18,000,000 of the new bonds, and report says that offers have already been made for the whole amount at 87½, which will give the company something over the amount. The other \$2,000,000 will be reserved for additional equipment as needed, it is said, although no reference is made to it in the official statement.

The new issue of bonds will add \$1,080,000 to the interest account at once, although, of course, only about half that amount will have to be provided for the current fiscal year, as the bonds cannot be issued before December. This will make the interest charges about \$3,730,000 yearly, and for this year about \$3,190,000 will be required to pay those charges. The indications are that the road will provide that amount from its net earnings without doubt, even though we regard the company's estimate lately published as a very sanguine one. The company will certainly be in a better position with its obligations funded in bonds whose obligations are known and fixed, than with a floating debt of ill-defined amount, for portions of which provision must be made at frequent intervals.

THE INVESTIGATION OF ACCIDENTS has lately taken up a good deal of the time of the New York Railroad Commissioners. The report on the Carlyon accident was made but a short time since; the examination into the accidents on the Long Island road at Valley Stream and Hunter's Point is finished this week, and Commissioner Kernan is just now watching the coroner's inquest on the men killed in the collision on the West Shore road near Fort Plain. Whether the Commissioners will make a formal examination into the latter accident is not yet stated. The evidence taken before the coroner, so far as the reports have been received, is very plain and direct, and so far indicates that all usual care was taken by the train dispatcher and his operators, and that the blame rests entirely with the engineer who was killed, and who, for some reason which can never be known—for it is hard to believe that he did it purposely—failed to stop at St. Johnsville for orders when signaled by the operator, and ran on, meeting the train from Fort Plain some two miles beyond. This seems to be proved by the evidence, not of the operator alone, but of other employees, including trainmen, whose sympathies were probably rather with the dead engineer than otherwise. The West Shore case seems to be rather one of those curious lapses of judgment—perhaps the doctors might call them temporary aberration of mind—which come at times to the most experienced and careful men.

THE OLD LOCOMOTIVE "ARABIAN," after nearly 50 years of faithful service, was at last destroyed in the burning of the Pittsburgh Exposition building last week. The "Arabian" was not the first locomotive, but it was among the first, which did practical service in hauling trains on a railroad, and the excellence of its construction is attested by the fact that it was still at work after so many years of rough service and hard knocks. One or two older engines survived, but they were laid up and carefully preserved as curiosities, while the "Arabian" could claim without contradiction that it had been steadily at work longer than any other locomotive in the world, and could be considered as the still active grandfather of the numerous family of its kind now running in this country. It was exhibited in Chicago, and on its return the Baltimore & Ohio Company allowed it to remain in Pittsburgh during the local exhibition there. Its destruction will be heard of with regret by the thousands who saw it in Chicago and by our readers, who had its history told them in the letter written by the late Mr. Latrobe some ten years ago and reprinted a few months since.

A SALT-PIPE LINE is proposed, to run from the salt region lately discovered in Western New York to some point in the anthracite coal region of Pennsylvania, where use can be made of coal dust or waste for producing the heat necessary to evaporate the lime. It is argued that the expense of pumping the lime from the salt wells, with the interest on the cost of the pipe line, will be less than the freight on the coal from the mines to the neighborhood of the wells. Even if the plan of using anthracite waste does not prove altogether successful, it is thought that there will be a saving. It is not unlikely that the pipe line will be built, if the salt developments prove sufficient to warrant it.

THE SCRAP HEAP.

Locomotive Building.

The Taunton Locomotive Works in Taunton, Mass., are building six locomotives for the Eastern Railroad. They are eight-wheel engines with 18 by 24 in. cylinders and 5 ft. drivers.

The Baldwin Locomotive Works in Philadelphia last week delivered a heavy six-wheeled shifting engine to the Crane Iron Company. They are building a number of engines for Brazil.

H. K. Porter & Co. in Pittsburgh are building four locomotives for the Little Rock, Mississippi River & Texas road. The Chicago, Burlington & Quincy shops at Aurora, Ill., are building two passenger engines with 18 by 24 in. cylinders. They will be the heaviest passenger engines on the road.

Car Notes.

Bowers, Dure & Co., in Wilmington, Del., recently delivered three new passenger cars to the Cornwall & Lebanon road.

Work has at last been begun on the new shops of the United States Rolling Stock Co. at Calumet, near Chicago. The contracts for the buildings have been let to Agnew & Cox and to Michael Clarkson; the contract for docking the water front to the Calumet & Chicago Canal & Dock Co. The buildings are to be finished by July next.

Bridge Notes.

The Keystone Bridge Co. in Pittsburgh has so many orders on hand that its shops are now running night and day, two sets of workmen being employed.

The Morse Bridge Works at Youngstown, O., have begun to run double time, on account of the large number of orders to be filled.

Iron Notes.

Merion and Elizabeth furnaces at West Conshohocken, Pa., have gone out of blast and will be thoroughly repaired. The Miller Forge and Iron Co., limited, of the Duquesne Forge, are forging a large steel shaft for an iron sea-going vessel being built at Bath, Me. The shaft will have collars 20 inches in diameter.—Pittsburgh American Manufacturer.

The Thomas Iron Co. reduced its prices for pig iron again last week.

At the new steel works of the Hartman Steel Co., at Beaver Falls, Pa., a steel billet or bloom 7 by 7½ in. is rolled down to 1 by ½ in. without reheating, something that has never before been attempted. Larger sizes of flat and round steel are rolled over 100 ft. long with perfect ease on the compound merchant mill, driven by a Mackintosh & Hemphill engine at one end and a Polter-Allen engine at the other.—North American.

The National Tube Works Co. is erecting a new warehouse and office building in Pittsburgh.

Manufacturing Notes.

The Union Switch & Signal Co., in Pittsburgh, has the contract for supplying the New York, West Shore & Buffalo road with a complete system of block signals. The system will be extended over the whole line of the road.

The Weimer Machine Works, in Lebanon, Pa., are building a double-cylinder blowing engine with 12-in. steam cylinders and 40-in. blast cylinders, to go to Mexico.

The Lidgerwood Manufacturing Co., of 96 Liberty street, New York, has placed an agency for its goods with Morton, Reed & Co., in Baltimore, a leading machinery house. The Lidgerwood Co. is well known as an extensive manufacturer of hoisting machinery.

The Pintsch Lighting Co., of New York, is equipping 100 cars for the New York, West Shore & Buffalo road, with its system of lighting by compressed gas. This is the second lot of cars so equipped for that road.

The Detroit Steel Works and the Detroit Car Spring Co. have on exhibition at their Chicago office, No. 103 Adams street, both spring steel and coil and elliptic springs of their own manufacture, to which they call attention.

The Rail Market.

Steel Rails.—Sales reported are only of small lots, for which quotations are steady at \$37 to \$37.50 per ton at mill. Buyers of large lots still hold off, and no heavy orders are reported.

Rail Fastenings.—Spikes are unchanged at \$2.60 per 100 lbs. in Pittsburgh, with probably a small deduction on heavy orders. Track-bolts are still quoted at \$3 to \$3.25 per 100 lbs., and splice-bars at 1.9 to 2 cents per pound.

Old Rails.—Some sales of imported iron rails are noted at \$23.25 per ton in Philadelphia for tees and \$24.25 for bridge rails. Pittsburgh quotations are \$24 to \$24.50 for American tees.

Lake Erie Iron Co.

The Lake Erie Iron Co., of Cleveland, O., has opened an office and agency at No. 52 Broadway, New York, for the sale of its products, including car and locomotive axles, bar iron, shape iron, track bolts, machine bolts, lag screws and other iron work.

A test of a car axle manufactured by this company was recently made at Dayton, O., with a drop weighing 1,700 lbs., the axle being turned after each blow. The result was as follows: First blow, 10 ft. fall, $3\frac{1}{2}$ in. deflection; second, 10 ft., $\frac{1}{2}$ in.; third, 10 ft., $3\frac{1}{2}$ in.; fourth, 20 ft., $3\frac{1}{2}$ in., after which followed seven blows at 20 ft. fall, with 20 in. deflection in all. The axle was then bent into a horseshoe form in a wheel press without showing any fracture.

Fast Time.

The Canada Atlantic Co. now claims that it runs over its road the fastest regular passenger train in America. This train makes the run of 78.4 miles between Coteau and Ottawa in 1 hour and 34 minutes, making three stops. This is at the rate of 50.04 miles an hour, without allowance for the stops.

Sunday morning the fast mail train on the New York Central made the run from Syracuse to Buffalo, 150 miles, in 188 minutes. The train was late, and made stops of four minutes at Lyons, eight at Rochester, and three at Batavia—thus making the actual running time 178 minutes. It was drawn by the new engine No. 611, William Cook engineer, and G. W. Wood conductor. The train consisted of seven heavily-loaded mail cars.—*Buffalo Express*, Oct. 9.

Flying Money.

While riding on top of a freight car in Chicago last Saturday, going toward the fair grounds, C. W. Leffler noticed a piece of paper flying toward him over the tops of the cars. The train was running at the rate of five or six miles an hour, and the bit of paper when first seen was distant some four or five car lengths. It came directly toward him and kept on coming until it struck him near his vest watch-pocket. He grabbed it, held on to it, scanned it, and ascertained that it was a genuine one-dollar bill. Where it came from, or how it got started, will remain a mystery. It is not every day that money is obtained in that way.—*Aurora (Ill.) Beacon*.

Losing the Baby.

A remarkable incident has occurred on the Midland Railway at Birmingham (England). A lady, on reaching Saltley Junction with a quantity of luggage and a baby, was told that she must change for New Street station. In her hurry she placed her baby in a first-class compartment, and then went to the goods van to look after her boxes, but before she could return to the compartment where she had deposited the infant the train started, leaving the terrified lady standing on the platform. Almost distracted, she cried aloud for help and fainted away, but on recovering consciousness was placed in a cab with instructions to be driven to the central station, Birmingham, as fast as possible. The baby, in the meantime, had been carried through the tunnel, kicking and screaming to the alarm of other passengers on the train, and on arrival at New Street was found, to the astonishment of the railway officials, to be the only occupant of the carriage. It was at first imagined that some one had deserted the child, and a conference was held as to what had best be done with it. Just at this time a gentleman sauntered up and inquired what was the matter. Before an explanation could be given him the baby, who had so far been crying and screaming lustily, suddenly began to clap its hands and look pleased, whereupon the gentleman exclaimed: "Why, dear me, this is my own little niece." The gentleman had arrived at the station with the intention of meeting his sister. Naturally the greatest excitement prevailed as to what had become of the mother, but the arrival of the affrighted lady in a cab quickly set matters right.—*Pull Mall Gazette*.

Some Railroad Reminiscences.

"In looking over these old memoranda," said an old railroad man Saturday, "you will find the date when the first locomotive and train of cars crossed Suspension Bridge March 18, 1855. It was a Great Western railway train of 22 heavily laden cars, and the engine drawing it was the 'Elk.' The total weight of the train was 370 tons. March 19 the first passenger trains crossed the structure from the American to the Canadian side. The locomotive was the 'David Upton,' and the man who presided at the throttle was David Upton, the Master Mechanic. The cars were crowded with passengers, among them being many ladies. When the train reached the Canadian station a collation was served by Station-Master Nutter. When the train from the West crossed, Superintendent Burrows furnished a collation.

"In 1855 the wages of mechanics in the Central shops in this city were cut down a shilling per day, and the men, who were not receiving great pay, were indignant and talked about striking, but they did not strike. It was thought the money market was badly cramped to cause the great railroad corporation to cut down wages. Ten and 12 shillings per day were high wages for skilled mechanics in those days. One or two foremen in the shops received \$2 per day, but the average wages paid were \$1 per day. The cost of living was correspondingly low, so that the men prospered, more so than now, when they get \$2.50 and \$3 per day.

"Talking about locomotives exploding in one of your chapters, you forgot to mention the explosion of the 'Essex' near Lyons, March 5, 1855. James Day, the present proprietor of the Waverly House in this city, was the engineer, and Thomas Adamson fireman. The engine was drawing the Cincinnati express train from Rochester. The fire-box exploded, and James, who happened to be standing in the tender, was thrown out into a field, scalded and bruised. Adamson was fatally injured and died the following morning. One of the driving-wheels was torn from the engine. Day has not determined to this day what caused the explosion."—*Rochester (N. Y.) Post-Express*.

Experiments with the Electric Locomotive.

A public experiment with an electric locomotive on the Daft system was to be made Oct. 10 on the Saratoga, Mt. McGregor & Lake George road, when it was expected that a train would run from Saratoga to Mt. McGregor with the Daft motor and two cars. The road has some very steep grades, and is well adapted to give the engine a thorough trial.

A Grade-Crossing Accident.

About 6 o'clock yesterday morning a car No. 402 of the Union line, loaded with passengers, was crossing the North Penn Branch of the Philadelphia & Reading Railroad at Susquehanna avenue and American street it was struck by an incoming passenger train and shivered into fragments, and the driver and nearly all the passengers either killed or wounded. Descriptions of the appalling scene and the manner in which it occurred vary considerably, but apparently the most reasonable account is that given by a gentleman who was standing near. He says the train was running at a very rapid rate, and as the street car reached the track it was struck by the engine, and entirely demolished. The horses broke loose and ran up Susquehanna avenue, and were afterward captured. The flagman at the crossing says that he signaled the car to stop, and also called to the driver, but no heed was paid to his warning. The train is said to have been behind time, and was running at the rate of 25 or 30 miles an hour. The car was one of the class known as the "bob-tail," being furnished with a Slosson box, and was in charge of Henry Schultz, who acted in the dual capacity of driver and conductor. At the time of the accident Schultz was in the car, and a young man named John D. Spielman, living at Emerald and Dauphin streets, was driving. He says that the flagman, Jas. McGarey, after waving his flag on the railroad track dropped it and walked away, evidently not having seen the approaching train, and as the car approached the crossing he rushed into the street and again waved his flag, but it was then too late to stop the car. In a few minutes after the accident occurred, a number of persons gathered at the scene, and the injured ones were gathered up and placed in wagons, in which they were removed to the Episcopal Hospital, where they were kindly cared for. The list of the killed and wounded includes one man killed instantly; two others injured so that they died in a few hours; seven men and two women badly, but not fatally injured.—*Philadelphia North American*, Oct. 6.

Protecting Snow-Sheds from Fire.

The Central Pacific snow-sheds are guarded from fire by two watchmen, who occupy a house on the topmost height of Red Mountain, where they can take in the whole line of snow-sheds with their natural sight and by the aid of glasses. If they observe a fire in or near the sheds they notify the station at Cisco by a telegraph line, and forthwith the information is telegraphed to Sacramento, and in a minute or two the order is sent up the line to Blue Cañon and the Summit, where the fire trains are constantly on duty, to proceed to the point where the fire is prevailing. The fire train consists of a locomotive, with two tank cars filled with water, which is thrown with hose by a steam force-pump. When the fire trains are sent out they have the road, all other trains near the point of danger being stopped. The services of these fire trains are frequently called upon, but they are so prompt in action that they generally subdue the fires before much damage is done.

A Novel Plan to Raise Money to Build a Railroad.

Barrois, the ruler of the Central American state of Guatemala, has issued a decree for the construction of a railroad from the Atlantic to the Pacific Ocean through the state of Guatemala. He ignores the subsidy plan and in its stead the Dictator-President has promulgated an edict that every one whose income from official position, day's work, salary or other sources is not less than \$8 per month, shall for the period of ten years annually contribute the sum of \$4 toward the construction of the road. The persons making these obligatory payments are to be considered "shareholders in the enterprise, with all the rights and privileges accruing from the amount of their subscriptions." It is expected that these subscriptions will bring in some \$400,000 a year.

A Curious Order.

The officials of the New York, New Haven & Hartford Railroad have just issued a notice to their employes, prohibiting them from speaking in disrespectful terms of the New York & New England Railroad or its management in the presence of passengers.—*Boston Journal*, Oct. 6.

This is one of the most curious orders ever issued by a railroad company. It is hard to tell whether it should be considered as a compliment to the New England road or otherwise.

He Saw It.

An Alabamian who had projected a railroad worked up subscriptions for the line and organized a company with himself as President, was one day accosted by a hard-looking case who asked for the loan of a dollar.

"I don't know you," curtly replied the official.

"I'll explain," said the man. "I am a bear in the stock market."

"You?"

"Yes, sir. The stock of your road now sells at thirty-eight."

"It does."

"If you should be laid up for a month with a broken head or a stab, the stock would tumble to twenty."

"Y-e-s—I see—y-e-s," mused the President, as he scrutinized the stranger, and saw that he was ragged, hungry and desperate. "This is no locality for bears, but a mighty good one for bulls; you'd better get on to New Orleans."

"You see?" asked the man.

"Oh, certainly," and the \$5 bill laid on the table was proof of it.—*Wall Street News*.

Second-Class Cars in South Carolina.

The traveling public in South Carolina has not yet accustomed itself to the colored passenger. A demand is made for second-class cars, but the railway companies say their fares are already so low that an inferior rate would be ruinous. The Charleston *News and Courier* suggests an expedient which, it believes, would be equally effective. It proposes that reserved seat tickets be sold at an advance of

50 cents on the regular rates, and a special car be provided for this class of passengers. The chair-cars on our Northern roads operate on the same principle, and the plan of the *News and Courier* would probably be found to draw the desired poverty line with satisfactory distinctness.

It Was Sent.

"There!" called out a woman who was a passenger on a Bay City train leaving Detroit a day or two ago, "I've went and gone and left my satchel in the depot! Somebody call the conductor!"

A benevolent man, with a bald head and double chin, volunteered his services, and after a time the conductor was brought in.

"Can't you stop and run back?" asked the woman.

"No, ma'am, but I'll telegraph to have your baggage sent on. What is it?"

"A satchel."

"Very well," he said as he began to write. "It is an old satchel, with one handle off and the lock broken, of course."

"Y-es, sir, but it's none of your business if it is! You don't buy my satchels!"

"No, ma'am—of course not. Let's see, I'll telegraph them to open it. The first thing on top is a nightcap."

"S'posin' 'tis!" she blustered up. "I guess there is no law agin wearing nightcaps?"

"No, ma'am; and the next thing is a pair of black woolen stockings, which have been darned in the heels. What next?"

"The next thing is that if any man in this 'ere state of Michigan dares to open that satchel and go to pawing over the contents I'll make a corpse of him!" she exclaimed as she untied her bonnet.

"But I must telegraph!"

"Then you call it a black satchel kinder busted in on one side and kinder busted all to Goshen by you railroad wretches on both ends, and let it go at that! I won't have it pawed over!"

"But, madam, you!"

"Not another word," she said, as her spectacles danced on her nose. "Do as I tell you; and if they can't find it I'll come back and stir things up and bounce folks around till they think it's a bad year for hurricanes. Just say a busted black satchel, and add that if it comes along with the other handle pulled off I'll begin a lawsuit to make this railroad flicker!"

The busted black satchel left on the next train.—*Detroit Free Press*.

The Dangers of a Visit to a Rolling Mill.

A very serious accident occurred during the meeting of the Iron and Steel Institute at Middlesborough, England, which painfully illustrates the danger incident to the visit of a large number of persons to industrial establishments. A number of members of the Institute visited the North-eastern Steel Works before the time appointed for their reception. When on the platform, on a level with the cupola top, one of the ladle-buggies filled with molten metal stuck fast as it was pushed by a locomotive. The engineer backed up and tried to force the buggy over the obstruction by running against it. The shock broke the clutch, and the ladle began to swing around, slowly emptying its contents on the platform in the direction in which the visitors and a number of men were standing. All of them were covered with a spray of molten metal, a number were more or less injured, and one gentleman, Mr. Samuel Davison, of the Horbury Bridge Iron Works, near Wakefield, was so seriously burnt that he expired a few hours afterward. While none of the visitors were directly responsible for the accident, their presence possibly might have had something to do with it indirectly. It is certain that, in a mill, the visit by a large number of strangers increases the danger of accidents. Often, unconsciously and unintentionally, they stand in the way of the men, whose attention is only too often diverted from their work, and who frequently take extra risks in order to make a special show of activity. We have repeatedly observed instances, too, where the visitors unconsciously placed themselves in positions of danger. The gentlemen who act as guides to their visitors cannot watch personally over the safety of all, especially as there are generally, in every party of the kind, a number of persons who prefer to ramble off by themselves.—*Engineering and Mining Journal*.

General Railroad News**MEETINGS AND ANNOUNCEMENTS.****Meetings.**

Meetings will be held as follows:
New York, Lake Erie & Western, annual meeting, at the office in New York, Nov. 27.

Northern Pacific, special meeting of preferred stockholders, at the office in New York, Nov. 20, to vote on the question of authorizing the issue of second-mortgage bonds. Transfer books close Oct. 20.

Dividends.

Dividends have been declared as follows:
Baltimore & Ohio, 5 per cent., semi-annual, on the Main Stem and Washington Branch stock, payable Nov. 1.
Buffalo & Southwestern (leased to New York, Lake Erie & Western), 3½ per cent. on the preferred stock, payable Oct. 15. This is the first dividend.
Oregon Railway & Navigation Co., 2½ per cent., quarterly, payable Nov. 1. Transfer books close Oct. 15.
St. Paul, Minneapolis & Manitoba, 2 per cent., quarterly, payable Nov. 1. Transfer books close Oct. 20.

Railroad and Technical Conventions.

The Southern Time Convention will hold its fall meeting at No. 46 Bond street, New York, Oct. 17.

The Brotherhood of Locomotive Engineers will hold its twentieth annual convention in Buffalo, N. Y., beginning Oct. 17. The convention will open with a public meeting in St. James' Hall on the afternoon of that day.

The Southern Railway & Steamship Association will hold its ninth annual convention in Atlanta, Ga., Oct. 24, as by notice elsewhere.

The American Association of Railroad Superintendents will hold its fall meeting in Washington Oct. 23.

The American Society of Mechanical Engineers will hold its annual meeting in New York in the week ending Nov. 3.

Foreclosure Sales.

The Tallahassee & St. Marks road was sold in Tallahassee, Fla., Oct. 9, under a decree of the United States Circuit Court and bought for \$25,000 by John A. Henderson, who is understood to be acting for the Florida Central & Western Co. The road sold is a branch of that line extending from Tallahassee southward 21 miles to the old seaport of St. Mark's. It has a very light traffic and is in very poor condition.

Southern Railway & Steamship Association.

Owing to the fact that several important members cannot be in Atlanta on Oct. 17, and desire postponement, notice is given that the Ninth Annual Convention of the Southern

Railway & Steamship Association will be held at the office of the Association, in Atlanta, Ga., on Wednesday, Oct. 24, 1883, instead of Oct. 17, as stated in Circular Letter No. 2, Series 1883-84.

Transportation companies, members of or working with the Association, are invited to send duly authorized representatives, as per Third Article of Agreement of Jan. 17, 1883.

The Convention will be called to order at noon.

ELECTIONS AND APPOINTMENTS.

American Society of Civil Engineers.—At the regular monthly meeting in New York, Oct. 3, the following candidates were elected members: George A. Marr, Charles J. A. Morris, St. Paul, Minn.; Andrew Rosewater, Omaha, Neb.; Charles E. H. Campbell, Council Bluffs, Ia.; Henry R. Towne, Stamford, Conn.; Frank S. Stevens, Albany, N. Y.; Frederick W. Watkins, New York.

Atlantic & Danville.—The officers of this company are: President, J. M. Bailey, Waverly, Va.; Secretary and Treasurer, B. D. Lillar, Hicksford, Va.; General Manager, E. G. Sweat, Woonsocket, R. I.; Chief Engineer, J. W. Rollins, Jr., Boston.

Atlantic & Pacific.—Mr. F. W. Smith, General Superintendent, will hereafter act as Purchasing Agent also, in place of D. B. Sibley, deceased. His office is at Albuquerque, N. M. The office in Chicago has been closed.

Augusta, Elberton & Chicago.—Col. A. S. Buford (President of the Richmond & Danville Co.) has been chosen a director in place of F. A. Eve, resigned.

Broadway Underground.—At the annual meeting in New York, Oct. 9, the following were chosen: President, Melville C. Smith; Trustees, John Cummins, Jerome Fassler, H. C. Gardner, Wm. Windom; Secretary, John Cummins; Treasurer, James Gilfillan.

Brunswick & Western.—The following circular from General Manager H. S. Morse is dated Brunswick, Ga., Sept. 27: "Mr. C. R. Wise, Chief Engineer, will in addition to his other duties, have charge of the track, water stations and depot buildings of this company from this date. Bridge carpenters, supervisors, etc., will report to him."

Buffalo, New York & Philadelphia.—Mr. D. D. Randall has been appointed Train-Master and Chief Train Dispatcher of the Rochester Division in place of S. W. Height, resigned.

Chesapeake, Ohio & Southwestern.—Mr. R. H. Briggs has been appointed Superintendent of Machinery and Motive Power of this Company, taking effect Oct. 4. He will have full charge of all matters connected with the Mechanical Department. Mr. Briggs was recently Master Mechanic of the Whistler shops of the Mobile & Ohio road.

Cleveland, Indiana & St. Louis.—At the annual meeting in Anderson, Ind., Oct. 4, the following directors were chosen: John Lee, A. J. Hunter, T. H. Messick, A. O. Miller, James Coombs, J. A. Larnard, E. Busby, E. P. Schlater, N. Teter, J. Durfee, W. H. Castor, T. E. Teter, John Milligan. The board organized by electing the following officers: John Lee, President; T. E. Messick, Vice President; E. P. Schlater, Secretary; A. O. Miller, Treasurer.

Dover & Barrington.—This company was organized at Dover, N. H., Oct. 8, with the following officers: President, Alfred Hott; Directors, Washington Anderson, Nathaniel S. Bradlee, George W. Colbatch, Henry Law, J. Herbert Seavey, B. S. Wallingford; Clerk, Joshua G. Hall; Treasurer, Henry Law.

Dover & Winnisseequoie.—At the annual meeting in Dover, N. H., Oct. 3, the following directors were chosen: John McDuffee, Amos Paul, W. S. Stevens, Z. S. Wallingford, C. W. Woodman. The road is leased to the Boston & Maine.

Grand Trunk.—Mr. Edmund Wragge has been appointed Assistant General Manager, with charge of the Toronto District of the company's lines. He was recently Manager of the Toronto, Grey & Bruce road.

Highland Junction.—At the annual meeting in New York, Oct. 9, the following directors were chosen: George Y. Larned, Pittsfield, Mass.; Charles E. Hill, Stamford, Conn.; Samuel N. Schanck, Hightstown, N. J.; Joseph J. Morrison, Alexander Robertson, South Orange, N. J.; James H. Frothingham, Brooklyn, N. Y.; Wm. Barker, Peter Bowe, Augustus T. Docharty, Edward Kearney, Sidney P. Nichols, Wm. Pollock, Charles L. Wright, New York.

Memphis & Little Rock.—Mr. D. Miller has been appointed General Freight and Passenger Agent in place of S. C. Roberts, resigned. Mr. Miller has been Chief Clerk to the General Manager of the road for several years.

Michigan Central.—Mr. J. B. Morford is appointed Assistant Superintendent of the Eastern and Toledo divisions, with headquarters at Detroit.

Mr. J. H. McLaughlin is appointed Depot-Master at Detroit, vice Mr. J. B. Morford, transferred.

Missouri Pacific.—Mr. C. C. Drake has been appointed Division Freight Claim Agent for the states of Texas and Louisiana, with office at Fort Worth, Texas.

Mobile & Ohio.—Mr. M. T. Carson has been appointed Master Mechanic of the shops at Whistler, Ala., in place of Mr. R. H. Briggs, who has gone to the Chesapeake, Ohio & Southwestern road.

New York, Lake Erie & Western.—Mr. T. A. Phillips has been appointed Superintendent of the Western Division of the leased New York, Pennsylvania & Ohio road. He was formerly connected with the road, but has recently been on the Toledo, Cincinnati & St. Louis.

Northern Pacific.—The new board has re-elected Henry Villard President; Thomas F. Oakes, Vice-President; Samuel Wilkeson, Secretary; Robert Lenox Belknap, Treasurer; George Gray, General Counsel.

Ontario & Quebec.—Mr. Wm. Whyte has been appointed Manager of this road and its leased Toronto, Grey & Bruce line. He is also Manager of the Credit Valley road.

South Pennsylvania.—Mr. Robert H. Sayre has been appointed Chief Engineer of the American Construction Co., which has the contract for building this road. Mr. Sayre will have charge of construction. Mr. Oliver W. Barnes remains Consulting Engineer.

Texas & St. Louis.—The following circular has been issued by President J. W. Paramore: "Geo. W. Ristine having resigned his position as General Manager, the duties of General Manager will, until further notice, be assumed by the President. A. E. Buchanan has been appointed Superintendent of Transportation, with office at Tyler, Texas."

Western Union Telegraph.—At the annual meeting in New York, Oct. 10, the following directors were chosen, 624,170 shares being voted upon out of the total 800,000: Norvin Green, Hugh J. Jewett, Thomas T. Eckert, J. Pier-

pont Morgan, John T. Terry, Frederick L. Ames, John Van Horne, John Hay, Augustus Schell, William D. Bishop, Harrison Durkee, C. P. Huntington, Jay Gould, George B. Roberts, Russell Sage, Alonzo B. Cornell, Sidney Dillon, Cyrus W. Field, John Pender, M. P., Henry Weaver, Percy R. Pyne, Robert Lenox Kennedy, Frank Work, Samuel Sloan, Erasmus Wiman, John J. Astor, George J. Gould, Chauncey M. Depew, James W. Clendenin, Christopher C. Baldwin.

The changes are John Hay in place of E. D. Worcester, and Frank Work in place of Z. G. Simmons.

Western Weighing Association.—At the annual meeting in Chicago, Oct. 5, the following Executive Committee was chosen: H. C. Wicker, Chicago & Northwestern; E. C. Ripley, Chicago, Burlington & Quincy; Horace Tucker, Illinois Central; George Olds, Missouri Pacific; M. Knight, Wabash, St. Louis & Pacific; W. M. Sage, Chicago, Rock Island & Pacific; A. C. Bird, Chicago, Milwaukee & St. Paul. The Committee re-elected J. R. Wheeler Commissioner.

PERSONAL.

—Mr. W. D. Slack has resigned his position as Land Commissioner of the Little Rock & Fort Smith road.

—Mr. S. C. Roberts has resigned his position as General Freight and Passenger Agent of the Memphis & Little Rock road.

—Mr. John C. Gault has finally declined the position of Commissioner of the California pool, which was recently offered to him by the Pacific roads.

—Mr. William H. Brown, Chief Engineer of the Pennsylvania Railroad, has returned from Europe, much benefited by the period of rest he has had from his arduous duties.

—Mr. M. B. Moran, General Ticket Agent of the New London Northern road, has resigned in order to accept a position on the new Jacksonville, Tampa & Key West road in Florida.

—Mr. J. W. Alsop has resigned his position as Superintendent of the Western Division of the New York, Pennsylvania & Ohio Division of the New York, Lake Erie & Western road.

—Mr. C. P. Huntington, Vice-President of the Central Pacific and President of the Chesapeake & Ohio, has suffered a great loss in the death of his wife, Mrs. Elizabeth Stoddard Huntington, who died last week at her home in New York.

—Mr. Wm. Franklin, Master of Transportation of the Central Ohio Division of the Baltimore & Ohio road, died suddenly of heart disease in Newark, O., Oct. 7. Mr. Franklin began railroad work as a fireman and gradually worked his way up. He had been on the Baltimore & Ohio for 12 years past.

—Mr. George O. Clinton, Superintendent of the Chicago Division of the Chicago, Milwaukee & St. Paul road, and formerly of the Rio Grande Division of the Texas & Pacific, was presented in Chicago, Oct. 6, with a testimonial purse of \$1,111, subscribed by the employees of his division in Texas as a token of their esteem and good will.

—Hon. George Geddes, who died at his home in Fairmount, N. Y., Oct. 8, was born at that place in 1809. Early in life he studied law, but afterward became a civil engineer. He was employed for a time on the Erie Canal, and afterward made the surveys for the Oswego & Syracuse road, the opening of the Blossburg coal mines and the railroad leading to them, and many other works. Later, Mr. Geddes served four years in the State Senate, and while there drew up the general law regulating the formation of railroad corporations. Of late years Mr. Geddes has lived quietly on the large farm which he owned.

—Col. T. M. R. Talcott has tendered his resignation of his office as General Manager of the Richmond & Danville Railroad and its controlled lines. Col. Talcott has been connected with the road ever since the war, we believe, as Chief Engineer, Engineer and Superintendent, General Superintendent, and finally General Manager. Both as Engineer and as Manager he has made for himself a reputation as one of the foremost of Southern railroad men, and it is largely due to his ability and energy that the road has become one of the best built and best run roads in the South. His place will not easily be filled. In addition to his official work, Col. Talcott has always been a close student of transportation methods and problems, and his yearly reports contain much information that in many other companies' statements cannot be found at all, or can be reached only by much labor and calculation.

—Gen. George Webb, who died in Johnstown, Pa., Oct. 9, was born in Muncy, Lycoming County, Pa., Nov. 4, 1828. He taught school and educated himself in civil engineering. In 1850 he went to the lead-mining district of Wisconsin. About 1852 he surveyed the northern boundary of that state for the government. The district was a vast wilderness and he suffered great hardships. From 1856 to 1860 he was City Engineer of Dubuque, Iowa. In 1860 he negotiated with Jefferson Davis for the building of levees on the Mississippi, but, the war breaking out, he gave up all contracts and entered the Union Army as captain of a company from Lycoming County. From 1862 to 1872 General Webb was Chief Engineer and General Superintendent of the Catawissa Railroad, and he lived in Williamsport during this time. He was also Chief Engineer of the Baltimore & Potomac Road, and constructed the large tunnel under Baltimore. In 1872 he was appointed Assistant General Manager of the Pittsburgh, Cincinnati & St. Louis Railroad, and great credit has been given him in bringing that road to its present high standard. In 1874 he was appointed to the same position on the Pittsburgh, Fort Wayne & Chicago Railroad. In 1875 he was appointed General Agent for the Cambria Iron Co. He had full control of all the tests of steel made by this company for the Brooklyn Bridge. In 1877 he married Miss Emma Alden, of Muncy, who, with three sons and three daughters, survive.

—Mr. Henry Farnam, who died in New Haven, Conn., Oct. 4, aged 80 years, began active life at 18 as rodman on the Erie Canal under the then well-known surveyor, David Thomas, soon rose to be Assistant Engineer and worked on the surveys for several years. He was well grounded in the principles of surveying. Although poor and born on a farm at Scipio, Cayuga County, N. Y., he showed a strong taste for mathematics, and after leaving the district school fell under the care of a town surveyor, who taught him the elements of geometry, algebra, trigonometry and surveying. He worked on the surveys in the summer and taught school winters. About 1824 he became Assistant and afterward Engineer in charge of the New Haven & Northampton Canal, for which the railroad was afterward substituted. Here he became associated with Joseph E. Sheffield, founder of the Sheffield Scientific School of Yale College, and the business connection lasted many

years. They built the New Haven & Northampton road, and Farnam became its first Superintendent. Next they built the road from Chicago to Rock Island, and did a large part of the work on the Michigan Central road. They also held other large contracts, and both had very large investments in railroad securities. Mr. Farnam invented the modern railway excursion, taking 1,000 invited guests over the completed Rock Island road from Chicago to the Mississippi in June, 1854, and 400 miles up the river by boat. Mr. Farnam settled in New Haven in 1869 and built a fine house there on Hillhouse avenue. He had already given \$30,000 to Yale College and he then added \$30,000 more, and Farnam dormitory was built in 1870. His private and public gifts have been large and made without display. His last act before being stricken with paralysis was to procure drafts for friends who he thought needed help. He married in 1839 Ann S. Whitman of Farmington, Ct., and leaves five children, four sons and a daughter.

TRAFFIC AND EARNINGS.

Railroad Earnings.

Earnings for various periods are reported as follows:

Nine months ending Sept. 30:

	1883.	1882.	Inc. or Dec.	P. c.
Bur., C. R. & N.	\$1,976,723	\$1,976,035	D.	\$8,312 0.4
Canadian Pacific	3,841,462	1,714,656	I.	2,126,806 124.0
Central Iowa	914,781	848,112	I.	66,669 7.8
Chi. & Alton	6,301,206	5,995,839	I.	305,367 5.1
Chi. & East Ill.	1,238,149	1,306,716	I.	68,567 5.5
Chi., Mil. & St. P.	16,591,000	14,098,064	I.	2,492,936 17.7
Chi. & N. W.	18,080,715	17,440,320	I.	640,395 3.7
Chi., St. P., M. & O.	3,786,899	3,533,394	I.	253,505 7.2
Cin., W. & Balt.	1,383,924	1,274,944	I.	108,980 8.6
Denver & R. G.	5,380,600	4,762,789	I.	617,801 13.0
Det., Lan. & No.	1,164,900	1,108,773	D.	56,127 5.0
E. Tenn., Va. & Ga.	2,895,733	2,250,835	I.	645,898 28.1
M. & Charleston	802,256	725,979	I.	76,277 10.6
Hann. & St. Jo.	1,873,010	1,644,392	I.	228,618 14.0
Ind., Bl. & W.	2,217,807	1,907,761	I.	310,046 16.3
Little R. & Ft. S.	357,884	290,368	I.	67,516 23.3
Little R. & M. R.	256,281	180,357	I.	75,924 42.1
Long Island	2,118,159	1,950,567	I.	167,592 8.5
Louis. & Nash.	10,036,086	9,030,316	I.	1,005,770 11.1
Mil. L. S. & W.	735,468	631,336	I.	104,132 15.5
Mo. Pacific lines:				
Central Branch	1,056,089	633,913	I.	422,176 66.5
Int. & Gt. No.	2,662,105	2,403,478	I.	258,627 10.7
Mo., Kan. & T.	5,353,884	4,373,784	I.	980,100 22.3
Mo. Pacific	6,775,553	5,959,740	I.	815,813 13.7
St. L. Iron Mt. & So.	5,582,103	5,146,962	I.	435,141 8.4
Texas & Pacif.	4,450,821	3,438,032	I.	1,012,789 29.1
Wabash, St. L. & Pacif.	12,117,236	12,385,011	D.	167,775 1.4
Mobile & Ohio	1,440,742	1,309,475	I.	131,267 10.0
Northern Pacific	6,557,752	4,853,437	I.	1,704,315 35.0
Ohio Central	785,882	746,949	I.	38,933 5.2
Ohio Southern	301,990	269,480	I.	32,510 12.1
Oregon R. & Nav. Co.	3,867,801	3,771,244	I.	96,557 2.6
Peoria, Dec. & E.	529,653	581,546	D.	51,893 9.8
St. L. & S. Fran.	2,723,034	2,550,871	I.	172,163 6.7
St. P. & Duluth	934,328	741,986	I.	192,342 26.0
St. P., M. & Man.	5,932,701	6,118,669	D.	186,168 3.0

Eight months ending Aug. 31:

Atchison, Top. & Santa Fe	\$9,105,929	\$9,206,014	D.	\$100,085 1.1
Net earnings	4,821,539	3,515,429	I.	1,306,110 37.2
Southern Kan.	1,041,681	758,004	I.	283,677 37.4
Net earnings	539,504	380,477	I.	159,027 39.5
Chi. Bur. & Q.	15,725,032	12,867,479	I.	2,857,553 22.2
Net earnings	7,463,097	5,752,290	I.	1,710,807 29.7

Seven months ending July 31:

St. Johnsbury & L. Champlain	\$141,638	\$132,450	I.	\$9,188 6.9
Month of July:				
St. Johnsbury & L. Champlain	\$26,187	\$24,679	I.	\$1,508 6.1

Month of August:

Atchison, Top. & Santa Fe	\$1,263,899	\$1,251,662	I.	\$12,237 1.0
Net earnings	755,827	639,552	I.	116,275 18.5
Southern Kan.	189,006	154,967	I.	34,039 21.9
Net earnings	108,537	94,398	I.	14,139 15.0
Chi. Bur. & Q.	2,495,123	2,060,859	I.	434,264 19.6
Net earnings	1,290,596	1,119,591	I.	171,005 15.3
Og. & L. Cham.	67,700	68,800	D.	1,100 1.6
Net earnings	23,600	21,700	I.	1,900 8.8

Month of August:

Buff., N. Y. & Phil. Bur. Cedar Rap. & No.	\$265,000			
Canadian Pacific	258,356	\$261,438	D.	\$3,082 1.2
Central Iowa	505,540	\$73,843	I.	\$231,697 84.6
Chi. & Alton	115,651	112,824	I.	2,827 2.5
Chi. & East Ill.	918,502	912,691	I.	5,811 0.6
Chi. & N. W.	155,537	172,215	D.	16,678 9.7
Chi., Mil. & St. P.	2,221,000	1,950,710	I.	270,290 13.8
Chi. & N. W.	2,567,000	2,553,500	I.	14,400 0.5
Chi., St. P., M. & O.	523,300	522,200	I.	1,100 0.2
Cin., Wash. & B.	205,842	201,929	I.	3,913 0.9
Denver & R. G.	719,500	595,200	I.	124,300 20.7
Det., Lan. & No.	152,632	139,402	I.	13,230 9.5
East Tenn., Va. & Ga.	385,065	317,130	I.	67,937 21.4
Mem. & Char.	106,059	84,473	I.	21,586 26.4
Hann. & St. Jo.	261,601	247,584	I.	14,017 5.8
Ind., Bloom. & W.	292,865	273,159	I.	19,706 7.2
Little R. & Ft. Smith	43,774	43,401	I.	373 0.8
Little R. & M. R.	26,904	24,938	I.	1,966 7.9
Long Island	288,468	267,706	I.	20,762 7.8
Louis. & Nash.	1,310,503	1,114,512	I.	195,991 17.6
Mil. L. S. & W.	92,118	89,012	I.	3,106 3.4

Mo. Pacific lines:				
Cent. Branch	145,176	100,257	I.	44,925 44.8
Int. & Gt. No.	328,129	391,144	D.	63,015 19.0
Mo., K. & T.	735,385	618,700	I.	116,685 19.9
Mo. Pacific	944,742	801,415	I.	143,327 17.9
St. L. I. M. & O.	770,104	724,163	I.	45,941 6.3
Tex. & Pacif.	529,986	473,238	I.	56,748 12.0
Wa. St. L. & P.	1,737,181	1,682,670	I.	54,511 3.2
Mobile & Ohio	184,021	157,879	I.	26,142 16.5
Northern Pacific	1,210,000	772,838	I.	437,162 56.6
Ohio Central	102,691	119,377	D.	16,686 14.0
Ohio & Miss.	497,729	468,229	I.	29,500 6.3
Ohio Southern	39,823	38,511	I.	1,312 3.2
Ore. Ky. & Nav. Co.	581,800	551,013	I.	30,787 5.6
Net earnings	317,870	349,716	I.	31,846 10.0
Peoria, Dec. & E.	72,574	65,525	I.	7,049 10.7
Rockes. & Pitts.	83,309	32,502	I.	50,807 15.6
St. L. & S. Fran.	376,522	336,792	I.	39,730 11.5
St. P. & Duluth	131,681	120,214	I.	11,467 9.8
St. P., Minn. & Man.	777,780	832,781	D.	55,001 6.6

First week in October:

Denver & R. G.	\$175,800	\$157,400	I.	\$18,400 11.7
Hann. & St. Jo.	58,400	57,400	I.	1,000 1.7
Long Island	61,479	57,463	I.	4,016 7.0
Mil., Lake Sh. & West	21,140	18,450	I.	2,690 14.6

The earlier reports of

Coal.

Anthracite coal tonnages for the nine months ending Sept. 29, as given by the weekly statements of the companies, are reported as follows, the tonnage in each case being only that originating on the line to which it is credited:

	1883.	1882.	Inc. or Dec.	P. c.
Phila. & Reading	8,799,223	4,980,051	I. 484,269	5.9
Central, of N. J.	3,334,903	3,334,903	I. 484,269	5.9
No. Central, Sham-	950,363	981,303	I. 19,060	2.0
kin Summit Branch	114,375	117,285	D. 2,910	2.5
North & West Branch	382,464	382,464	I. 382,464	2.4
Pennsylvania Canal	317,730	364,041	D. 16,281	4.4
Lehigh Valley	4,690,431	4,293,906	I. 396,525	9.2
Pennsylvania & N. Y.	155,600	143,410	I. 12,190	8.5
Del., Lacka. & Western	3,646,107	3,313,105	I. 333,002	10.1
Del. & Hud. Canal Co.	2,945,398	2,563,450	I. 381,958	14.9
Pennsylvania Coal Co.	1,082,128	1,023,109	I. 39,019	3.8
State Line & Sullivan	48,873	42,231	I. 6,642	15.8

Total anthracite 23,122,722 21,108,794 I. 2,015,928 9.5

New Jersey Central coal tonnage is now included in the Philadelphia & Reading statement. The North & West Branch road was not opened last year.

The total tonnage reported for the corresponding period for eight years has been:

1883	23,122,722	1879	19,262,150
1882	21,108,794	1878	12,147,543
1881	20,422,349	1877	14,275,663
1880	16,756,073	1876	12,365,653

The production this year is the largest on record. It exceeds that reported for 1878, the worst year on the list, by 10,975,179 tons, or 90.3 per cent.

Semi-bituminous coal shipments for the nine months ending Sept. 29 are reported as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Cumberland, all lines	1,861,353	865,050	I. 996,303	115.2
Huntingdon & Broad Top	139,830	211,262	D. 71,432	33.9
East Broad Top	30,756	67,080	D. 36,324	54.2
Tyrone & Clearfield	2,064,651	2,086,042	D. 21,391	1.1
Bellefonte & Snow-Shoe	173,331	165,997	I. 7,334	4.4

Total semi-bituminous 4,269,951 3,396,031 I. 873,890 25.7

The changes here are chiefly due to the strike, which stopped the shipments of Cumberland coal for several months last year, the absence of that coal from the market promoting the sale of Broad Top and Clearfield.

Bituminous coal shipments for the nine months are reported as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Barclay R. R. & Coal Co.	235,220	261,611	D. 26,391	10.1
Allegheny Region, Pa.				
R. R.	315,653	404,556	D. 88,903	21.9
Penn. and Westmoreland	1,024,653	940,050	I. 84,603	9.0
West Penna. R. R.	294,353	253,952	I. 40,401	15.9
Southwest Penna. R. R.	81,005	76,277	I. 4,728	6.2
Pittsburgh Region, Pa.				
R. R.	441,938	486,685	D. 44,747	9.0

Total bituminous 2,393,122 2,423,131 D. 30,009 1.2

As in previous statements of this year, the decrease in bituminous shipments is chiefly in those coals which are largely used in the iron manufacture.

Coke tonnages for the nine months were as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Bellefonte & Snow-Shoe	13,572	15,978	D. 2,406	15.0
Allegheny Region, Pa.				
R. R.	60,195	83,397	D. 23,203	23.0
Penn. & Westmoreland	164,476	189,726	D. 25,250	13.3
West Penna. R. R.	77,069	87,084	D. 10,015	11.5
Southwest Penna. R. R.	1,554,160	1,321,647	I. 232,513	17.6
CConnellsville R. & Pa. R. R.	443,881	429,340	I. 14,541	3.5
Pittsburgh R.				

Total coke 2,313,353 2,127,172 I. 186,181 8.8

These tonnages are all over the Pennsylvania Railroad. The only other company which reports its coke tonnages is the Chesapeake & Ohio, and its reports are not received until later.

The coal tonnage of the Pennsylvania Railroad Division of the Pennsylvania Railroad for the nine months to Sept. 29 was:

Line of road.	1883.	From other lines.	Total.	1882.	Total.
Anthracite	478,039	1,220,479	1,697,418	1,311,916	
Semi-bituminous	2,238,022	469,711	2,707,733	2,599,259	
Bituminous	2,157,792	5,068	2,162,860	2,161,559	
Coke	1,874,164	439,189	2,313,353	2,127,172	

Total 6,746,917 2,134,447 8,881,364 8,190,908

The total increase this year is 681,456 tons, or 8.3 per cent. The tonnage for September (four weeks) was: Coal, 733,872; coke, 237,386; total, 971,258; total, September, 1882, 878,170; increase, 93,088 tons, or 10.6 per cent.

Actual tonnage passing over the Huntingdon & Broad Top road for the nine months was:

	1883.	1882.	Inc. or Dec.	P. c.
Broad Top coal	139,830	211,262	D. 71,432	33.9
Cumberland coal	367,772	129,666	I. 238,106	183.4
Total	507,602	340,928	I. 166,674	48.9

The Broad Top coal is mined on the line of the road; the Cumberland is carried through for the Pennsylvania Railroad.

Actual tonnage passing over the Pennsylvania & New York road for the ten months of its fiscal year from Dec. 1 to Sept. 29 was as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Anthracite	983,081	880,768	I. 102,313	11.6
Bituminous	286,064	296,848	D. 10,784	9.7
Total	1,269,145	1,177,616	I. 91,529	6.2

A large part of the anthracite is received from the Lehigh Valley road, of which the line is an extension.

The Tennessee Coal, Iron & Railroad Co. shipped from its mines during the nine months ending Sept. 30 this year 90,760 tons of coal and 70,588 tons of coke, a total of 161,348 tons.

Cumberland coal shipments for the week ending Oct. 6 were 57,419 tons. For the year to Oct. 6 they were 1,918,772 tons, against 909,077 tons for the corresponding date in 1882, an increase this year of 1,009,695 tons, or 111.1 per cent.

Grain Movement.

For the week ending Sept. 29 receipts and shipments of grain of all kinds at the eight reporting Northwestern markets and receipts at the seven Atlantic ports have been, in bushels, for the past eight years:

Year.	Northwestern receipts.	Total.	By rail.	P. c.	Atlantic receipts.
1876	6,476,942	4,680,252	1,650,858	35.4	4,680,252
1877	6,686,166	6,141,867	924,512	15.0	5,828,593
1878	6,519,744	5,623,837	1,165,641	20.8	6,751,531
1879	8,354,792	4,994,530	1,485,981	29.8	8,538,381
1880	9,171,857	6,192,815	2,026,090	32.7	6,616,781
1881	5,914,832	3,589,227	2,241,992	62.5	5,173,070
1882	6,133,168	3,634,552	1,348,494	37.1	3,903,484
1883	7,673,281	6,382,053	2,280,514	35.7	5,792,379

The Northwestern receipts for the week were thus exceeded in 1879 and 1880, but were larger than for any other year in the eight. They were 1,740,000 bushels (28.4 per cent.) greater than for the corresponding week of last

year, but 814,000 bushels (9.4 per cent.) less than for the previous week of this year.

The shipments for the week were larger than those for any previous year and were 2,748,000 bushels (76 per cent.) more than last year. They were, however, 537,000 bushels (8 per cent.) less than the previous week this year.

The Atlantic receipts for the week were exceeded in 1877, 1878, 1879 and 1880. They were 1,889,000 bushels (48 per cent.) greater than for the week last year, and 662,000 bushels (13 per cent.) more than for the previous week of this year.

Exports from Atlantic ports for the week ending Sept. 29 for four years have been:

	1883.	1882.	Inc. or Dec.	P. c.
Flour	196,073	149,872	I. 46,201	30.8
Grain	2,684,304	3,396,682	D. 712,378	21.0
Total, bu.	3,664,609	4,146,042	D. 481,373	11.6

The total exports for the week exceeded those of the previous week of this year by 510,000 bushels, or 16 per cent.

San Francisco exports for the three months of the California crop year to the end of September were as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Flour, bbls.	256,851	227,831	I. 29,020	12.7
Wheat, bu.	4,952,982	5,669,807	D. 716,825	12.6
Total, bu.	6,237,237	6,808,962	D. 571,725	8.4

Exports of California barley by sea for the three months to the end of September were 60,837 centals, against 74,240 centals last year, a decrease of 13,413 centals, or 18 per cent.

Rail shipments of barley for July and August of this year were 2,279 centals.

Imports of Iron Ore.

The imports of foreign iron ore into the United States for the eight months ending Aug. 31 were:

	1883.	1882.	Inc. or Dec.	P. c.
At New York	33,895	111,252	D. 77,357	69.6
At Philadelphia	119,366	79,778	I. 39,588	49.5
At Baltimore	156,793	148,046	I. 8,747	5.9
Total	310,054	339,076	D. 29,022	8.6

Of the imports this year 143,943 tons, or 46.4 per cent., came in July and August. The statement does not include Canadian iron ores.

The total imports of iron ore for the full year 1882 were 589,655 tons; for 1881 they were 782,887 tons, and in 1880 they were 493,408 tons.

Cotton.

The cotton movement for the week ending Oct. 5 is reported as follows, in bales:

	Interior markets.	Seaports.
Receipts.	123,304	91,546
Shipments.	123,304	165,461
1883.	123,304	91,546
1882.	120,928	90,388
		61,243
		80,987

The stock at interior markets Oct. 5 was 137,596 bales.

The receipts at Texas points (including Shreveport) were 32 per cent. of the total. The increase in interior receipts was 2,676 bales, or 2.2 per cent.; in shipments 1,158 bales, or 1.3 per cent.

Of the seaport receipts for the week Galveston had 16 per cent., New Orleans 24, Savannah 21, Charleston 16 and Norfolk 9 per cent., the minor ports the remaining 14 per cent. The seaport stock reported Oct. 5 was 404,498 bales.

Pacific Coast Passenger Rates.

A dispatch from Chicago, Oct. 9, says:

"The general passenger and ticket agents of roads running west and northwest from Chicago and St. Louis met here to-day to take action regarding rates and divisions on Pacific Coast through business. It was resolved that California rates shall be apportioned by the agreed method of making divisions now in force in apportioning through rates, viz., when rates are based on local each line in interest shall receive its local; when rates are less than the sum of the locals, a prorata, based on short-line mileage, shall prevail. No line east of the Missouri River, or St. Paul, shall receive in any case more than its local, nor shall any such line accept a less rate per mile on its short haul than it is entitled to receive on its long haul. It was also decided that this was the ultimatum, and that no other concessions would be made to Pacific roads. The meeting then adjourned to meet with the Pacific Coast lines at Kansas City, Oct. 16."

Chicago Live-Stock Divisions.

A dispatch from Chicago, Oct. 8, says: "The fact is published here that Commissioner Fink has announced to the Eastern trunk lines his award of percentages on eastward bound live stock. The percentages are given as follows: Lake Shore, 26; Michigan Central, 17; Fort Wayne, 13; Pan Handle, 8; Grand Trunk, 11; Nickel Plate, 8½; Baltimore & Ohio, 5½; Chicago & Atlantic, 11. By this arrangement the Vanderbilt roads and the Fort Wayne road are the heaviest sufferers from the old schedule, in which the Pan Handle and the Chicago & Atlantic roads were not represented as independent lines."

New York Milk Rates.

A dispatch from Albany, N. Y., Oct. 9, says: "A majority report by Railroad Commissioners Kiernan and Rogers, and a minority report by Commissioner O'Donnell, were made to-day in the matter of a complaint of 150 milkmen against the alleged excessive charges by the Harlem Railroad. The milkmen asked for a reduction from 45 cents to 20 cents. The majority report finds that the rate should be reduced to 30 cents, and also that the cost of the Harlem road is \$18,276,325, against \$22,599,570, claimed by the road. The minority report finds that 20 cents is a fair average per can, and that the cost of the road is \$16,893,236, and also that the net earnings for the past 10 years have averaged 11.45 per cent. on the cost of the road, and for the past year 11.35 per cent., and that if the surplus and available assets, including Madison Square Garden, etc., be added, the percentage for 1882 will be 16.36 per cent. on the cost."

The Chicago-Ohio River Pool.

At the meeting held in Cincinnati last week it was agreed to form six pools on the Chicago-Ohio River business, to cover the following points:

1. Chicago and Indianapolis.
2. Chicago and Louisville, Jeffersonville and New Albany.
3. Chicago, Cincinnati, Lawrenceburg, and Brighton.
4. Indianapolis, Cincinnati, North Bend and Brighton.
5. Indianapolis, Louisville, and New Albany.
6. Chicago and Evansville.

The details of the various pools are now being adjusted by the Executive Committee appointed at the meeting and the general passenger and freight agents of the roads.

The agreement is to continue for one year from Oct. 31, but is terminable on 30 days' notice. It has been accepted by all the roads interested except the Chicago & Eastern Illinois; but that road is not cutting rates.

Passenger Meeting in New York.

A meeting of general passenger agents was held at the Commissioner's office in New York, Oct. 9, to consider

alleged irregularities in passenger rates westward. Vice-Chairman Pierson presided; it is understood that no action was taken.

The sale of several issues of tickets from New York to Cincinnati, St. Louis and other western points at the regular ticket offices has been stopped by order of the Commissioner, in consequence of alleged sales of those issues below the regular rates by agents of the roads over which the tickets are good.

Western Weighing Association.

At the annual meeting of this Association in Chicago last week, Commissioner Wheeler read the report for the year ending Aug. 31, 1883, showing that 575,165 car lots of freight had been weighed. He said that there had been a steady growth in the number of car lots weighed, the year showing an increase of 17,366 cars, or 3.1 per cent.

The following are the amounts, in car lots, weighed for each road during the past year: Northwestern, 123,428; St. Paul, 96,610; Burlington, 74,576; Rock Island, 58,773; Wabash, 55,951; Illinois Central, 55,280; Alton, 34,262; Wisconsin Central, 16,530; Milwaukee, Lake Shore & Western, 15,939; Missouri Pacific, 13,121; Omaha, 9,991; Hannibal & St. Joseph, 6,681; Milwaukee & Northern, 4,806; Minneapolis & St. Louis, 3,568; Sioux City & Pacific, 648.

The total expenses for the year were \$30,104.27, of which \$6,082.60 was for general office expenses and \$24,021.67 for weighmasters' salaries. The cost to the railroads was about 1 cent per car for general expenses and 4.2 cents for weighing expenses.

Coal Rates from Buffalo.

A meeting of representatives of the freight interests of all the roads leading west from Buffalo was held in that city, Oct. 3, for the purpose of fixing coal rates to Western points. Representatives from all the roads leading west were present. The tariff was revised and the rates advanced to most points on the basis of a rate of \$2 per gross ton on hard coal to Chicago, to take effect Nov. 1. A resolution was adopted that no rebates or concessions be allowed on coal shipped and billed on the revised tariff on representations that may be made by shippers and others that orders had been taken and sales made on the basis of the rates in force prior to Nov. 1.

Rates on Kansas Business.

The Union Pacific Co. announces, in accordance with the new railroad law in Kansas, that it has adopted the joint western classification between the Missouri River and all points on its line in Kansas. New rates have also been adopted to those points, which are generally lower than those heretofore in force, and instructions have been given to agents to furnish shippers, on application with the exact rates to be charged under the schedule.

Boston Traffic Notes.

In September the movement of freight cars between the New York & New England and the Pennsylvania Railroad via the Harlem transfer around New York city, amounted to a total of 7,067 cars, against 7,665 cars in September, 1882; decrease, 598 cars, or 7.8 per cent. The average number of cars moved was 236 per day in September of this year.

OLD AND NEW ROADS.

Anniston & Atlantic.—The grading is now nearly finished for 30 miles from Anniston, Ala., and tracklaying has been begun at Anniston and also at Talladega.

Atchison, Topeka & Santa Fe.—This company makes the following statement for August and the eight months ending Aug. 31:

	1883.	August.	1882.	Eight months.	1883.	1882.
Earnings	\$1,263,899	\$1,251,662	\$9,105,929	\$9,206,014		
Expenses	508,072	612,110	5,284,390	7,690,585		
Net earnings	\$755,827	\$639,552	\$4,821,539	\$5,515,429		

For the eight months there was a decrease in gross earnings of \$100,085, or 1.1 per cent. This was accompanied by a decrease of \$1,406,195, or 24.7 per cent. in expenses, the result being a gain in net earnings of \$1,306,110, or 37.2 per cent. The heavy decrease in expenses was largely due to the extensive renewals and improvements of the road made in the preceding two years.

Atlantic & Danville.—The track on this road is laid from the starting point on the James River at Claremont in Surry County, Va., to Spring Grove, 6 miles. The road is graded for six miles further westward, and the rails are on the way. The track, it is expected, will reach Waverley, the crossing of the Norfolk & Western road, by December. We are informed that a recent statement as to this road was somewhat exaggerated; there is a heavy grade for half a mile from the river only, and there are no sharp curves. The first mile from the river required some heavy grading and trestling, but the rest is comparatively light.

The road is a narrow-gauge line and will run from Claremont, on the James River, at the head of sea navigation, to Danville, Va., a distance of about 160 miles. It will cross the Norfolk & Western at Waverley, run thence through Sussex County to Hicksford, where the Petersburg Railroad will be crossed, thence take a due west course—through the counties of Greensville, Brunswick, Mecklenburg and Halifax—to Danville.

On the James River at Claremont the company has built a large pier especially for the wood and lumber traffic, which, it is expected, will be very heavy. There is now piled up along the first 8 miles over 7,000 cords of wood, besides much timber, waiting for shipment.

Atlantic & Pacific.—San Francisco dispatches state that at the conference in that city it was agreed to open this road for through business to and from California on Oct. 21. No further particulars as to the arrangements made or the agreements reached in relation to the business have been received.

Austin & Northwestern.—A suit has been begun against this company at Austin, Tex., by a contractor, to recover a balance claimed for work done on the road. The company has begun several

to some extent depressed. Yet there is such a variety of business which the Baltimore & Ohio Co. now has in reaching new fields and opening new connections that when one branch of trade falls off another increases, until results are produced that are striking and full of progress. Agriculture is prosperous on our lines. The lumber, cattle and manufacturing interests upon our system are under the circumstances maintained satisfactorily." Mr. Garrett announced that while he was abroad arrangements were made for a regular weekly line of first-class steamships between Baltimore and Liverpool, to be permanently identified with this port.

Bell's Gap.—The gauge of this road was changed on Sept. 15 last from 3 ft. to the standard 4 ft. 9 in. The road is now laid with 56-lb. steel rails, and the narrow-gauge locomotives have been replaced by 50-ton consolidation engines. The road runs from Bell's Mills, Pa., on the Pennsylvania Railroad, to Coalport, 23 miles, through a very difficult country, having steep grades and many sharp curves. Its principal traffic is in coal and lumber, but in the summer time it does a considerable excursion business, carrying passengers through some of the most picturesque scenery in the Alleghenies.

Brooklyn, Flatbush & Coney Island.—This company defaulted on the interest due Oct. 1 on its \$500,000 second-mortgage bonds. It is stated that the earnings this year were not equal to the interest charges. The road is one of the numerous suburban lines connecting Brooklyn and New York with Coney Island, and has been run to meet a very sharp competition in an unfavorable season.

Burlington & Northwestern.—On the Western Branch of this road the grading is now completed to Oskaloosa, Ia., 24 miles beyond the late terminus at Martinsburg, and 105 miles from Burlington. Track is reported laid for 10 miles from Martinsburg, with work progressing steadily.

California Northern.—A survey has been completed for the extension of this road from Oroville, Cal., up the North Fork of Feather River to Big Meadows, about 55 miles. The survey is to be continued some 35 miles further, up Clear Creek to Pine Creek Meadows.

Canada Southern.—A dispatch from Washington, Oct. 10, says: "What is known as the Canada Southern Railroad case has been compromised. It stands on the Supreme Court calendar as 'Canada Southern Railroad versus Grand Trunk Railroad Co. of Canada and the International Bridge Co.' The cause of the suit is familiar to citizens of Western New York. It arises out of a dispute as to the construction of the provisions of the act of Congress which authorized the bridge, and particularly as to the phrase 'terms and conditions.' The law provided that all railroads should be admitted to the privileges of the bridge upon the same terms and conditions, and required the Court of the Northern District of New York, in case of dispute, to make the adjustment. The Grand Trunk Co., which obtained control of the bridge, imposed higher tolls than the Canada Southern felt willing to pay. Appeal was taken to Judge Wallace, of the Northern District Court, who decided that the phrase 'terms and conditions' did not include tolls. The attorney of the Canada Southern, therefore, brought suit in the United States Supreme Court to compel Judge Wallace to construe the act differently. Mr. McMillan, the attorney for the Canada Southern, yesterday secured a postponement of the hearing of the case until next January. Meanwhile, committees of the Canada Southern, the Grand Trunk, and the International Bridge companies have arranged a settlement on the basis of \$250,000 for the back tolls, instead of \$450,000 claimed, and by Jan. 1, the Canada Southern will have its own bridge built, over which most of its traffic will be sent, and the Grand Trunk Co. will lose most of the tolls of the Canada Southern."

Central, of Georgia and the Western & Atlantic.—A contract has been concluded between the Central Railroad Co., of Georgia, and the Western & Atlantic Co., which is to continue for seven years, and is virtually a union of the management of the roads for that time. It can best be explained by the following extracts from a statement made to the Atlantic Constitution by Senator Joseph E. Brown, President of the Western & Atlantic Co.:

"It is a solemn contract entered into between the Western & Atlantic Railroad Co. and the Central Railroad & Banking Co. and roads under its control, which has been signed by the presidents of the respective companies, and the contract ratified by the board of directors of each of the companies.

"It is a contract which virtually unites the interests and management of all the railroads above mentioned. It gives the Western & Atlantic Railroad Co. the right to make any rate it chooses into the territory of the Central and its allies on freight from Chattanooga or the West towards the coast, and into the territory covered by the Central and its allies and dependencies. And it gives the Central, and roads under its control, the right to make any rates it chooses from any portion of its territory to points over the Western & Atlantic Railroad to Dalton & Chattanooga and points beyond, so far as the Western & Atlantic Railroad has any power over the subject. In the sharp competition which this combination will have to meet, the Western & Atlantic will always be at liberty to quote rates into the territory of the Central and the roads subject to the Central, and the Central will always be at liberty to quote rates into the territory of the Western & Atlantic. This right is guaranteed by each to the other. The roads will all be worked as nearly like one system as possible, though each will retain its own organization and revenues. The relations between them will be of the most friendly character, and they will be allies in everything pertaining to their general prosperity; and they will give to each other all non-consigned freights in preference to any competing line, and will do all acts which their respective charters and the law of the state will permit them to do to advance the interests of each other, and to protect each other and to work together as one line. In a word, the contract virtually unifies the roads in the state above mentioned, and puts them under what is equivalent to one management, and binds each during the period of the contract to let the freights and passengers of the other into its territory at the same rate charged by the company sending the freight or passengers. If freight originates at Chattanooga, or along the line of the Western & Atlantic Railroad, we would have the right to send those freights anywhere into the Central territory, or the territory of the roads dependent upon it, at precisely the same rates per ton per mile that we send them over our own road. And the Central, and those acting under it, have the same rights in sending freights and passengers over the Western & Atlantic Railroad. Neither road can deny to the other the right of free access into its territory on equal terms.

"The object was to meet the strong consolidated combinations that are being made by northern syndicates, which threaten to swallow up all the roads of the south, and put Georgia and the Southern states under the control of one or two grand foreign corporations. We do not intend, so far as the roads above mentioned in Georgia are concerned,

that this shall be done; but we intend to hold the Georgia system so that the Georgia roads will help one another as against foreign competitors seeking to use them for the benefit of lines outside of the state. We will act together as one common fraternity against the common adversary when necessary. The contract just made puts it where no Northern syndicate by purchasing a majority of the stock of any one of the roads mentioned can control it as against the others. The contract, which has been very carefully drawn, binds the roads to work with one another upon the terms above mentioned. * * *

"The contract has been drawn with great care by able counsel, avoiding legal difficulties. It has been signed by the presidents of the respective companies and ratified by their boards of directors, and is as binding as any contract can be."

The term of seven years which the contract has to run is the term of the lease under which the Western & Atlantic Co. holds its road from the state.

Chicago & Atlantic.—This company has executed and recorded a mortgage of its property to the Farmers' Loan & Trust Co., of New York, as trustee, to secure an issue of \$5,000,000 bonds, to bear 6 per cent. interest and run 40 years from Aug. 1, 1883. This is a second mortgage, being subject to a prior one for \$6,500,000, making the total bonded debt \$11,500,000, or \$44,750 per mile.

Chicago, Burlington & Quincy.—This company makes the following statement of August and the eight months ending Aug. 31:

	August, 1883.	1882.	Eight months, 1883.	1882.
Earnings.....	\$2,495,123	\$2,086,857	\$17,725,032	\$12,867,479
Expenses.....	1,198,527	976,266	8,261,935	7,115,189
Net earnings....	\$1,296,596	\$1,110,591	\$7,463,097	\$5,752,290
Per cent. of exps.	48.0	46.8	52.5	55.3

For the eight months this statement shows an increase in gross earnings of \$2,857,553, or 22.2 per cent. This was accompanied by an increase of \$1,146,746, or 16.1 per cent., in expenses, the result being a gain in net earnings of \$1,710,807, or 29.7 per cent.

This company is laying steel rails on the Rock Falls Branch between Shabbona, Ill., and Paw Paw, and is ballasting the track. The connection between the Rock Falls and Sterling branches having been completed by the bridge over Rock River at Sterling, trains will begin next week to run through between Shabbona and Rock Island, over the two branches.

Chicago & Lake Superior.—This company has been incorporated in Illinois to build a railroad from Chicago to a connection with the projected road of the same name in Wisconsin. The road is to run from Chicago north to the Wisconsin line, or in a northwesterly direction from the terminus of the Chicago & Evanston Railroad. The capital stock is \$1,000,000, and the incorporators include Jason C. Easton, of La Crosse, Wis., Julius Wadsworth, Jeremiah Milbank, Peter Geddes, Hugh T. Dickey, William Rockefeller, T. L. Franks, and James Stillman, of New York; Selah Chamberlain, of Cleveland; T. W. Wadsworth, E. Walker, and E. K. Hubbard, of Chicago. These corporations are all connected with the Chicago, Milwaukee & St. Paul Company.

Chicago, Milwaukee & St. Paul.—On the James River Branch tracklaying has been completed from Wolsey, Dak., southward to Letcher, 34 miles, completing this branch for 160 miles through the James River Valley, from the Iowa & Dakota Division at Mitchell northward to Ellendale.

On the Southern Minnesota Division the track is now laid to Forestburg, Dak., 28 miles westward from the late terminus at Howard, and 74 miles from the junction with the Sioux Falls Branch at Egan. At Forestburg the line crosses the James River Branch. It is to be extended this season some 12 miles further, to Woonsocket.

Chicago, St. Louis & Western.—Chicago papers report that track has been laid on this road from the junction with the Chicago & Grand Trunk in Chicago southwest 20 miles to Willow Springs. From that point the road is to run southwest 35 miles through Coal City to Mazon, where it will connect with the Chicago, Pekin & Southwestern road, completing the line of that road to Chicago. The new road will be parallel to the Chicago & Alton for most of its length.

Cleveland, Delphos & St. Louis.—Track on this road is now laid to Carey, O., the crossing of the Columbus, Hocking Valley & Toledo and the Cincinnati, Sandusky & Cleveland roads. Carey is 10½ miles eastward from the late terminus at Mt. Blanchard, and 55½ miles from the western terminus at Delphos.

Concord.—Under the recent decision of the New Hampshire Supreme Court, Hon. Josiah Minot, of Concord, a retired railroad man, has agreed on as Trustee to represent the Concord Co. in its dealings and contracts with the upper roads.

Cornwall & Lebanon.—A dispatch from Lebanon, Pa., Oct. 9, says: "The Philadelphia & Reading Railroad Co. to-day placed a large force of men at work and environed with tracks the property purchased by Robert H. Coleman, which he had intended using for a station for his new road, recently opened to travel. He is thus prevented from connecting the road with the station. This action of the Reading Co., it is said, was taken because the Pennsylvania Railroad Co. is now making surveys through the Lehigh Valley with the intention of extending its new line from Reading to Lebanon, where it will connect with Coleman's road."

Denver & Rio Grande.—At the annual meeting in Colorado Springs, Col., Oct. 8, the stockholders voted unanimously to authorize the execution of a general mortgage for \$50,000,000, and the issue of 5 per cent. bonds under that mortgage, according to the plan proposed by the directors.

Under this plan, as already noted, the general mortgage will be executed for \$50,000,000. Of this amount \$26,123,000 will be reserved to provide for bonds now outstanding; \$13,877,000 will be used to provide for present needs and \$10,000,000 reserved for future extensions of the road. It is stated \$5,000,000 of the new bonds have already been placed, and a further amount will be offered to the stockholders. Under the terms of the mortgage the total issue of bonds is never at any time to exceed \$30,000 per mile of completed road.

Eastern.—The Boston Advertiser says: "The Eastern Railroad surplus for the trustees' year, ending Aug. 31, was \$102,000. For the fiscal year, which ended Sept. 30, it amounted to about \$135,000, besides which \$52,000 expended during the year for locomotives—an expense not incurred in 1882—may be counted in, making the aggregate surplus for the year not far from \$190,000. In 1882 the amount was \$216,000, but it is to be remembered that, in that year, the interest rate on \$1,824,000 of bonds was 4½ per cent. for 11 months, and 6 per cent. for one month, while during the year just ended, it has been 6 per cent. for the entire period, or nearly \$200,000 more than last year."

Grand Trunk.—The extension of this company's Michigan Air Line Division from Pontiac, Mich., to South Lyons, 23 miles, has been opened for business. The stations on the new road, with the distances from Pontiac, are: Orchard Lake, 4; Waller Lake, 12; Wixom, 15; New Hudson, 19; South Lyons, 23 miles. At South Lyons connection is made with the Toledo, Ann Arbor & Grand Trunk road for Toledo.

Illinois Central.—On the Canton, Aberdeen & Nashville Branch of the Southern Division, a large part of the grading of the whole line from Kosciusko, Miss., northeast to Aberdeen, 99 miles, is finished. Track has been laid from Kosciusko 38 miles, and the work is progressing steadily.

Indianapolis Union.—The Indianapolis News of Oct. 3, says: "It is understood that the injunction suit of the Cincinnati, Hamilton & Indianapolis against the Union company has practically ended, that company having agreed to become a party to the reorganization of the Union Railway Co. The reorganization scheme has now been fully prepared for final action on the part of the lines leasing privileges of the Union Co. The terms now made public, are shown to comprise not only passenger and depot facilities, but freight transfers and the location and building of the new depot. The terms of agreement set forth the need of more extensive and better regulated depot facilities. They provide that the proprietary companies shall convey to the Union Co. all properties now held and used in common for depot purposes; that the latter shall purchase additional ground, and shall procure plans and erect a new passenger depot at or near the site of the present structure. The new buildings and all Union property is to be appraised, also the value of the 999-year lease of the Belt road and its equipments. An interest of 7 per cent., constituting a fixed rental, shall be computed and paid on the total appraised value. This amount is to be divided into as many shares as there are railroads using the property. The Union tracks are to be used for passenger and local freight delivery only, and the cost of repairs and improvements shall be divided between the various roads on a wheelage basis. The operation shall be conducted by a board of managers composed of one representative from each company. The agreement offers an opportunity to each road in the city, except the Air Line, to enter the reorganization. The agreement of the Cincinnati, Hamilton & Dayton to the new plan (the Indiana, Bloomington & Western having already consented) removes, apparently, all obstacles to its consummation. The provision requiring a unanimous vote of the managers to authorize the admission of a new line has been changed to a majority vote; and it is pretty well understood that the Air Line (Louisville, New Albany & Chicago) will be admitted under the new rule."

Kanawha & Webster.—This is the name of a company which is organized to build a railroad from Charleston, West Va., eastward up the Elk River into Webster County, and thence northeast to Beverly in Randolph County, a distance of about 120 miles. The route is through a country rich in minerals and timber, but as yet undeveloped and but thinly settled.

Lamolle Valley Extension.—The grading and bridging on this road is now nearly finished, and track laying is in progress. The contractors expect to have the work completed by November. The road will extend from Swanton, Vt., to Rouse's Point, N. Y., about 13 miles, and will be used as a connection between the St. Johnsbury, Lake Champlain and the Ogdensburg & Lake Champlain roads.

Lebanon Springs.—In Albany, N. Y., Oct. 3, Judge Osborn, of the New York Supreme Court, on application of Wm. C. Reynolds, Receiver of this road, made an order authorizing him to issue \$350,000 in certificates of indebtedness, for the purpose of putting the road in good order and properly equipping it.

On the following day, however, the same judge directed a stay of the order, and further proceedings will be had in relation to it. It is said that representations have been made to the Attorney General of the state, which may lead him to oppose the granting of the order in behalf of the people.

Little Rock & Fort Smith.—In the suits brought to enforce the lien of the Arkansas state aid bonds, repudiated by that state, upon this road in aid of which some of the bonds were issued, the United States Circuit Court has reversed the decision of the District Court and holds that the railroads are not liable. The case was argued last June before Justice Miller of the Supreme Court, sitting on Circuit, and Circuit Judge Caldwell, and the opinion now made public is by Judge Miller. The suits covered also the Little Rock, Mississippi River & Texas road, and the decision applies to that road also.

Justice Miller, in his opinion, says: "The bonds are without the endorsement of the companies, and if they are responsible for their payment, as the plaintiffs assert in their bills, that responsibility must arise out of some other matters connected with their acceptance and sale of them to the present holders. * * It is clear enough that there is in the bonds themselves, with no indorsement, nothing which binds the companies that issued and sold them to pay either principal or interest. If they were so bound, an action at law would be the proper remedy to enforce the obligation. * * I have thus far said nothing about the status of the defendants as innocent purchasers of the property of the original company, which is the position asserted for one of them, and of the fact that under a subsequent mortgage there are bondholders whose right to the property of the company, and to an appropriation of their income, is superior to that of complainants; but if I do not go into that question, it is not because it is unworthy of consideration, but because I am of opinion that no lien in favor of the holders of the state bonds was created by the acts of the Arkansas Legislature, and if such a lien can be inferred in favor of the state, it does not pass to the creditors of the state either by anything found in the statute itself or by any recognized principle of law. I am of opinion, therefore, that the bills in these cases should be dismissed."

The suits involve a large amount of money, and were also regarded as test cases, the decision affecting other roads which received aid bonds. An appeal will probably be taken to the Supreme Court of the United States.

Manitoba Southwestern.—A dispatch from Winnipeg, Manitoba, Oct. 8, says: "General Manager Manvel, of the St. Paul, Minneapolis & Manitoba Railroad Co.; Col. Smith, Mr. Sawyer, and General Hammond, arrived at Winnipeg this morning and, with the local directors, held a meeting of the board of the old Manitoba & Southwestern Road to arrange for the transfer of that road to its new owners, who are said to be identified with the Canadian Pacific. Vice-President Angus and General Manager Van Horn, of the latter road, were also present, and the final sale and transfer will be made to-night. The terms of the sale have not been made known. Orders have been issued, however, to make a survey for the extension of the line to

Souris, a distance of 312 miles from Winnipeg. The land grant of 6,400 acres per mile does not accompany the transfer of the road."

Marquette, Houghton & Ontonagon.—The track is now all laid on the extension of this road from the old terminus at L'Anse, Mich., northward 31 miles to Houghton, the chief town of the copper district of the Upper Peninsula. The ballasting and finishing are in progress, and trains will run through from Marquette to Houghton, 94 miles, about Nov. 1.

It is reported that the Detroit, Mackinac & Marquette Co. has made an offer for the purchase or lease of this road, but nothing definite has been made public.

Maryland Central.—Track on this road is now laid to Forest Hill, Md., 4 miles northward from the late terminus at Belair, and 31 miles from the terminus in Baltimore. Trains have begun to run to the new terminus.

Mexican Railroad Notes.—The following notes are from the *Mexican Financier* of Sept. 15:

It is reported from Tampico that the Mexican Central has set engineers to work on plans for improving the harbor.

Four vessels with 6,000 tons of rails will soon arrive at Pescaderia for the Telfener road, and 5,000 telegraph poles have been ordered sent there.

Chihuahua is making strong efforts to have the American & Mexican Pacific Railway strike that city instead of Parral on its way to Piedras Negras from Mazatlan and Topolobampo.

The first locomotive entered Morelia last Wednesday morning, making the second state capital which the tracks of the Mexican National have reached since the first of the month, Saltillo being the first.

Mr. William Rogers and Mr. Albert Owen of the American & Mexican Pacific Railway (Topolobampo) have gone to the Pacific Coast to make arrangements for beginning work on the new enterprise. Mr. Owen is Chief Engineer.

Michigan & Ohio.—Track on this road is reported laid to Addison in Lenawee County, Mich., 45 east by south from Marshall, and 100 miles from the junction with Grand Rapids & Indiana at Allegan. Work is well advanced on the line east of Addison.

On the eastern end the track is laid from the junction with the Toledo, Ann Arbor & Grand Trunk road near Toledo, northwest to Franklin, Mich., 30 miles. This leaves only about 80 miles of track to be laid across Lenawee County.

Missouri Pacific.—Track on the Lebanon Branch is now laid to Bagnell, Mo., 6 miles southward from the late terminus at Cooper, and 46 miles from the junction with the main line at Jefferson City. Work is in progress on the grading southward.

Montreal & Sorel.—This road has been leased to the Grand Trunk Co. for 10 years, the lessee agreeing to spend \$50,000 in putting the road in good order. It extends from St. Lambert, on the St. Lawrence opposite Montreal, to Sorel, a distance of 46 miles.

New Canaan.—This road has been sold to the New York, New Haven & Hartford Co., on terms not stated. It is a short branch road, running from Stamford, Conn., to New Canaan, 8 miles, and has been owned by local stockholders.

New Orleans & Northeastern.—Work on this road is now making such progress that the company expects to be able to run trains through between Meridian and New Orleans. We are informed that it is the purpose of the company to adopt such rates as may be found adapted to develop local business over the road as much as possible.

New York, West Shore & Buffalo.—The track from Buffalo, N. Y., eastward is now down for 50 miles, to Churchville in Monroe County, and several trains are at work ballasting. The contractors have finished the grading for the yards at East Buffalo, and are now beginning to lay the tracks there.

A report has been current in New York that this company is trying to secure control of the Michigan Central road. It has been generally supposed that the controlling interest in that road was not for sale, and the rumor is probably based upon very slender grounds.

Northeastern, of Georgia.—The Georgia Circuit Court was to give a hearing Oct. 11, on the question of making permanent the temporary appointment of a receiver, which was noted last week. The judgments under which the receivership order was granted amount to only \$7,500 in all, and the company has made no default in interest. The state of Georgia will be represented at the hearing, as it is interested in the road as endorser on \$260,000 bonds of the company issued on the original road from Athens to Lula.

Northern Pacific.—Track on the Jamestown & Northern Branch is now laid to New Rockford, Dak., 16 miles northward of the late terminus at Carrington and 59 miles from the main line at Jamestown. About 25 miles of track are to be laid to reach Devil's Lake.

On the Palouse Branch (which we have heretofore credited to the Oregon Railway & Navigation Co., but which is one of the branches which the Oregon & Transcontinental Co. is building for the Northern Pacific) track is now laid to Endicott, Wash., 65 miles eastward from the main line at Palouse Junction. Work is advancing steadily.

At a meeting of the board held in New York, Oct. 6, the following resolutions were passed:

"Whereas, There is now required to provide for the present unfunded debt of this company, beyond the cash means available, the sum of \$9,459,920.83; and

"Whereas, The additional sum of \$5,500,000 will be required to complete entirely the construction of the main line now under contract, including the bridges and tunnels, and provide and pay for all equipment required and contracted for; therefore,

"Resolved, That this board, subject to the approval of three-fourths of the preferred stock, authorize the execution of a second mortgage for \$20,000,000 on all the property of this company, subject only to the priority of the present general mortgage. That this mortgage shall be similar in terms and conditions to the general mortgage, subject only to the liens of said mortgage.

"Resolved, That the Finance Committee be directed to open negotiations for the sale of \$18,000,000 of the second mortgage bonds and report their action to this board.

"Resolved, That the officers of this company be requested to prepare and publish, with all dispatch, for the information of the stockholders, a circular giving particulars of the funded and unfunded debt of this company, and of the present condition of the operating and land departments, including in the latter the cancellation of bonds with the proceeds of land sales."

A resolution was also passed calling a special meeting of the preferred stockholders for Nov. 20, to vote on the question of authorizing the proposed mortgage. The consent of the preferred stockholders only is required.

It is reported that offers have been received to take a large part of the new bonds at 87%. These offers are from

prominent bankers in New York, who will take the bonds in large amounts. If the bonds are placed at the price named, the \$18,000,000 will give the company \$15,750,000, which will be a little over the amount required.

Ohio Central.—In the Court of Common Pleas at Toledo, O., last week, Messrs. Mead and Johnson, who are joint defendants with the company in the suit in which the Receiver was appointed, filed a petition, with the necessary bond, for the removal of the case to the United States Circuit Court. This action, it is understood, is taken at the instance of the bondholders.

Mr. Wm. Bush, a bondholder, has begun suit in the New York Supreme Court to compel the delivery of certain stock and bonds issued on the bridge over the Ohio River to the Central Trust Co., of New York, as trustee of the River Division mortgage. He claims that under the agreement the bridge was to be part of the security under that mortgage, but that it was built by a separate company and that stock and bonds have been issued, but have been withheld from the possession of the trustee.

Ogdensburg & Lake Champlain.—This company makes the following statement for August and the five months of its fiscal year from April 1 to Aug. 31:

	August—	Five months—
	1883.	1882.
Earnings.....	\$67,700	\$68,800
Expenses.....	44,100	47,100
Net earnings.....	\$23,600	\$21,700
Per cent. of exps.....	65.1	68.5

For the five months there was a decrease of \$4,000, or 1.4 per cent., in gross earnings, with a decrease of \$21,000, or 9.2 per cent., in expenses, the result being a gain of \$17,000, or 30.2 per cent., in net earnings, resulting entirely from the reduction in expenses.

Oregon Railway & Navigation Co.—This company's statement for September and the three months of its fiscal year from July 1 to Sept. 30 gives the following figures:

	September—	Three months—
	1883.	1882.
Earnings.....	\$581,800	\$551,013
Expenses.....	263,930	234,297
Net earnings.....	\$317,870	\$316,716

For the three months, the first quarter of the fiscal year, this shows an increase in gross earnings of \$77,264, or 5.2 per cent., with an increase of \$67,904, or 10.2 per cent., in expenses, the result being a gain in net earnings of \$9,360, or 1.2 per cent.

Philadelphia & Chester County.—Mr. Daniel R. Kelley, the contractor for the construction of this road, has sued the Chester Construction Co., the Philadelphia & Chester County Railroad Co., and the Guarantee Trust & Safe Deposit Co., for securities alleged to be due him. He prosecuted the work up to June, 1883, when it was appraised by the Chief Engineer of the railroad company at \$70,000. This sum, he alleges, should be increased by \$30,000. For this amount of work he has received \$9,562 in cash and 26 bonds, making, at 50 per cent. of their par value, the sum of \$13,000. There accordingly remain due to him, according to his figures, 107 bonds and 2,000 shares of stock, which he asks that the Guarantee Trust Co. be required to deliver to him.

Portland & Ogdensburg.—A dispatch from Portland, Me., Oct. 9, says: "At the railroad hearing this evening, Mr. Stephen, President of the Canadian Pacific, spoke of Portland's facilities for becoming a great Atlantic port. He said the Canadian Pacific road would be finished a distance of 2,900 miles in two years, and that its managers are anxious to get a foothold here. He said he had seen many things he was not aware of before, and wanted a little more time to consider the purchase, as he did not want to make any mistake. Nathan Cleaves said he represented George P. Wescott, who also wishes to make an offer for the road. Mayor Deering stated that parties in New York had written in regard to the Portland & Ogdensburg, and had sent a messenger here on Saturday, who was given all the information that could be given, and to-day the New York people telegraphed, 'We are ready to meet the Council when you are ready to name a price for the property, and make prompt settlement of the question.' The gentleman represented the syndicate, who are ready to pay money for the road, and they propose to run it in the interest of Portland, and, if they purchase, they should make arrangement with the Canadian Pacific road for travel to come over this road. After further discussion the meeting was adjourned, subject to the call of the Mayor."

Richmond & Danville.—A suit has been begun by Henry Belden, Jr., of New York, against Wm. P. Clyde, Joseph Bryan and Thomas M. Logan, now or formerly directors of this company, to recover some \$200,000 damages. The complaint charges that the plaintiff was induced by the representations of the defendants and by their manipulation of the stocks, to buy securities of this company and the Richmond & West Point Terminal Co. at very high prices, and alleges that there was a conspiracy, in consequence of which he and others have suffered heavy loss, and he asks for damages accordingly. The suit is in the New York Supreme Court.

St. Paul & Duluth.—On the Grantsburg Branch of this road the track is now laid from Rush City, Minn., east to the St. Croix River, 7 miles. The bridge over the river is not quite completed; as soon as it is ready the track will be laid to Grantsburg, Wis., 12 miles further.

Sanborn, Cooperstown & Turtle Mountain.—Track on this road is reported laid to Cooperstown, Dak., 37 miles northward from the Northern Pacific at Sanborn. Work is in progress north of Cooperstown, and it is expected that 10 miles of track will be laid this fall.

Shoalwater Bay.—It is proposed to build a narrow-gauge road from Ilwaco, Wash. Ter., at the mouth of the Columbia River, northward to Oysterville, on Shoalwater Bay, about 20 miles. A considerable amount has been subscribed for the project.

Southeastern, of Canada.—On Oct. 6 the board of directors passed a resolution transferring this road to the trustees under the mortgage. This action virtually places the road in the hands of the Canadian Pacific Co., as that company holds all the bonds.

Southern Kansas.—This company makes the following statement for August and the eight months ending Aug. 31:

	August—	Eight months—
	1883.	1882.
Earnings.....	\$189,006	\$154,967
Expenses.....	80,469	60,569
Net earnings.....	\$107,537	\$94,397

For the eight months this shows an increase in gross earnings of \$238,677, or 37.4 per cent.; an increase in expenses of \$130,844, or 35.2 per cent.; and an increase in net earnings of \$152,833, or 39.5 per cent. The road is controlled by the Atchison, Topeka & Santa Fe.

South Pennsylvania.—The American Construction Co., which has the contract for building this road, has completed arrangements for beginning active work on the grading. The contracts for the seven long tunnels on the line, for which a large number of bids were recently received, will be given out in a short time, and it is expected that work on them can be continued during the winter, while the lighter grading will be begun in the spring.

Standard Time Changes.—On Sunday, Oct. 7, the roads composing the through line between Boston and Montreal, by way of Concord, began to run under the new standard time system, to which frequent reference has heretofore been made. The time for these roads is that of the 75th meridian or Eastern Standard, which is intended to prevail, if the system is generally adopted, all over New England, New York and the Atlantic states.

The change and the method of making it is well explained in the following order, issued by Mr. H. E. Chamberlin, Superintendent of the Concord Railroad:

"After 12 o'clock noon of Sunday, Oct. 7, 1883, the standard time of these railroads will be that of the 75th meridian, designated as the Eastern Standard, and 16 minutes slower than Boston time, which has heretofore been the standard time governing the movement of trains on these roads. The clock in the depot at Concord will at the above-mentioned time be changed to correspond with the new standard time, and the watches of all employes must be governed by it as provided in rule 1 of the general rules.

"Therefore, at 12 o'clock noon of Sunday, Oct. 7, 1883, all officers and employes of these roads, including train, section and station men, whose duties require that they should have the correct time for trains, will report at the most convenient telegraph station and receive the time as given from the general office to the station operators, and all station clocks and employes' watches must be changed to correspond. All station operators will be at their instruments on that day 5 minutes before 12 o'clock noon, Boston time, and remain until the new standard time is given. At points where there is no telegraph office, station agents and other employes will, on Saturday, Oct. 6, regulate their clocks and watches by the watches of the conductors of the afternoon passenger trains; then, on Sunday, Oct. 7, at noon, they will set their clocks and watches back 16 minutes, and verify the same on Monday, Oct. 8, by the watches of the conductors of the forenoon passenger trains.

"It will be readily seen that this is an important duty, and each officer and employe will be held to a strict accountability for the consequences of any failure in its performance. This new standard will be adopted at the same time by all the railroads comprising the lines between Boston and Montreal (except the Boston & Lowell Railroad, which will not change until a week later), and it is expected that before the close of the month of October most of the railroads in the United States, east of Buffalo and in Canada east of Detroit, will adopt the 75th meridian as their standard, thus making a uniform railroad time for that territory."

Staten Island.—At a meeting held Oct. 9 the stockholders voted to ratify the proposed lease of the road to the Staten Island Rapid Transit Co. by a vote of 9,432 to 774 shares.

It is understood that nearly all the stock is now owned by persons interested in the Rapid Transit Co., Capt. Jacob Vanderbilt, the largest individual stockholder, having recently sold his stock to them.

Toledo, Cincinnati & St. Louis.—The full text of the decision of the United States Circuit Court removing the Receiver and restoring the road to the company, shows that the order was made because the Court held that the application did not present a case entitling the petitioner to require such an appointment. The Court, in its opinion, implies that the condition of the company does in fact warrant a receivership, but holds that no sufficient case was made out in the pleadings. Judge Baxter says, in his opinion:

"The conclusion which we have reached here is to discharge the Receiver and to remand the road to the possession of the company. Whereas, we have taken it out of the possession of the company, and as there has been no notice as to what this Court would do, some little time ought to elapse to enable them to prepare to receive it. The order will therefore be made discharging the Receiver on Oct. 12, which will be two weeks from to-day, and he be directed to turn the property over to the possession of the company; and he will be discharged from his office as Receiver. We do this for an additional reason: that the trustees of the bondholders may in the meantime take such action for the protection of their own interests as they may be advised is necessary and proper to take under the circumstances. I will be in Cincinnati on that day and on the day before—the 11th and the 12th—to hear any application that may be made.

"I entertain the opinion, further, that these mortgages will have to be foreclosed separately; that we cannot, by any exercise of the power placed in this Court, require these separate mortgages to pool their interests and to sell the road as an entirety. It will be necessary for a bill to be filed to foreclose each mortgage, and that bill ought to be within the jurisdiction where the road is situated; that is to say, in the Southern District, at Cincinnati; in the Eastern Division of the Southern District, at Columbus, and in the division of the Northern District at this place. If that is done, the Court may—and probably will—appoint a receiver. The Court desires to make the selection, or, although he is appointed by the different jurisdictions, to appoint the same man to assume the control of the whole line within the jurisdiction of the courts.

"I think that the Cincinnati Northern has a right to a receiver upon the bill which the trustee has filed, and if that is the only case, I might make an appointment different from what I would make if I am under the necessity of appointing some man to manage the whole line of 500 miles of road lying within the districts. The provision may be incorporated in the order, allowing them to prosecute that suit that is already instituted in Cincinnati, but I will not disturb the present Receiver in possession of the road until that time—to wit, Oct. 12. And I will not make an appointment of a receiver to take possession and operate the Cincinnati Northern until I am advised of other applications, or whether it will be unnecessary to appoint some man to control and manage the whole road. I will reserve that question until I hear what further applications may be made."

Union Pacific.—The Oregon Short Line engineers have completed a survey for an extension of the road from Burnt River, Oregon, the point of connection with the Oregon Railway & Navigation Co.'s road, up Snake River to Lewiston, a distance of 186 miles. The line follows the river generally and is said to be entirely practicable. It is by no means certain, however, that the road will be built. The engineers have now begun a survey for a branch from some point near Pocatello to the Yellowstone National Park.

Williamstown.—It is stated that this road is now controlled by the Philadelphia & Reading Co., and that it will be operated as a branch of the New Jersey Southern road. It extends from A. J. N. J., to Williamstown, 9 miles, and an extension to Glassboro, 7 miles, is in progress.